

À. M. A.

SCIENTIFIC EXHIBITS

1956

A M. A SCIENTIFIC EXHIBITS 1956

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PREFACE

The preface of A M A. Scientific Exhibits 1955 stated that "the Scientific Exhibits presented at each Annual Meeting of the American Medical Association offer the finest medical postgraduate course in the world. Their growth in popularity has been so rapid that many physicians regard the Scientific Exhibits as the main attraction of the Annual Meetings."

The character of medical meetings has changed markedly in the last generation. This is not to be wondered at, considering advances made in communication, in transportation, in the production of new items in industry, and in changes in the social structure of the community, all of which have influenced our way of living. The participant in the medical meeting of today finds that the spoken word is still necessary to convey information, but he finds also that audiences want to be shown. Scientific Exhibits have satisfied this demand because they present the latest advances in medicine in a form that can be quickly comprehended, with a lasting visual impression.

Formerly there was no adequate reproduction of Scientific Exhibits and when the meeting was over the exhibits were dismantled, many of them never to appear again. In 1955 the volume A M A. Scientific Exhibits, 1955 was published by Grune & Stratton, depicting exhibits shown at the Atlantic City meeting. The response to that book has been gratifying indeed and has induced the publishers to continue the project.

Experience has dictated the necessity of some changes in the second volume in order to improve the caliber of reproduction, at the same time decreasing the cost and getting the publication to the customer at an early date after the meeting.

A few of the commercial exhibits from the Technical Exposition are also reproduced this year as an experiment. It is felt that the commercial exhibits are an integral part of the meeting and that many physicians find them an important source of information on new products. These commercial exhibits are carried in much the same manner as advertising in medical journals. If this trial is successful and many pharmaceutical and instrument manufacturers wish to participate next year, the revenue from this source will be used to reduce the price of the book and allow further improvements in quality.

The scientific exhibits at the Chicago meeting included an abundance of material artistically prepared and scientifically valuable. It was impossible to reproduce all of this which would have required some three thousand pages. The editors have confined their selections therefore to the exhibits which received award together with a few additional outstanding ones.

Acknowledgments are due to the cooperation of the publisher Grune and Stratton, Inc., and members of their staff to undertake a second edition of this volume. Numerous conferences were held with Mr. Henry M. Stratton and with Dr. Richard H. Orr, Medical Director, concerning details of the work. Dr. Austin Smith gave much valuable advice concerning the project. By the agreeable cooperation of all parties concerned an early publication has been possible.

THOMAS G. HULL

Secretary Council on Scientific Assembly

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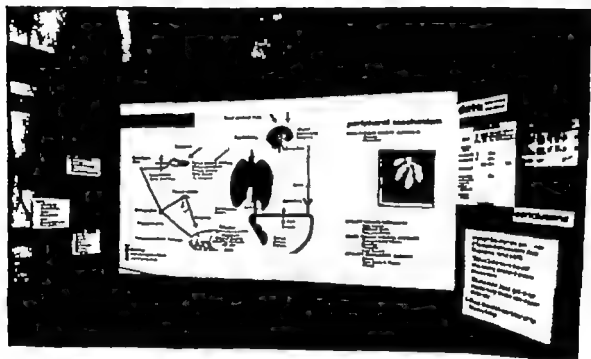
Lakeside Laboratories	
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4 SCIENTIFIC EXHIBITS
1956

Pulmonary Edema Antifoam Agents.

REUBEN C. BALAGOUT ROSAURD MA. REYES, GARETH B. GIER, and MAX S. SADOVE, University of Illinois College of Medicine, Chicago.

The causes and contributory factors in pulmonary edema are discussed. A graphic illustration of the mechanisms that possibly cause pulmonary edema is depicted. The usual methods of treatment are given. Results of studies of the effects of antifoam agents are shown. Some toxicity studies with these agents were done both from the acute and the chronic aspects.



Etiology

COMMON DENOMINATOR

Foamy foam fo med in the
trachea bronchial tree
prevents oxygenation

CENTRAL NERVOUS SYSTEM
Skull Trauma
Subarachnoid hemorrhage
CVA
Encephalitis meningitis polio, tetanus

CARDIOVASCULAR
Hypertension
Coronary
Pulmonary
Embolism
Sepsis
Congenital
Shock

ALLERGIES
Anaphylactic shock
Sulfonamides
Asthma (?)

POISONS
ANTU (thiourea)
Anti cholinesterases
Opiates
Methyl salicylates
Iodides
Acetic and Butyric ether
Phenyl carbamide

OTHERS
Thyroid crisis
Beriberi
Insulin shock
Scurvy
Tetanus

RESPIRATORY CONDITIONS
Pneumonia
Obstruction
Irritants
Rapid thoracentesis
Chest trauma
Post lobectomy

OBSTETRICS
Pregnancy
Hypertension
Hemorrhage

SURGERY
Postoperative
Anesthesia
Sterile technique

peripheral mechanism

INTRA ALVEOLAR PRESSURE DECREASED IN:

Dyspnea
Obstruction



CAPILLARY PRESSURE INCREASED IN:

Renal Ischemia
Emotional Stress
Epinephrine Release

COLLOID OSMOTIC PRESSURE DECREASED IN:

Prolonged Saline Infusion
Nephrosis
Starvation
Liver Disease

CAPILLARY PERMEABILITY INCREASED IN:

Anoxia
Toxic Causes & Poisons
Allergy

Any one of the 3 factors may not cause pulmonary edema. Capillary pressures up to 50 mm Hg have been recorded without pulmonary edema developing.

Increased capillary pressure or diminished colloidal pressure or both plus increased capillary permeability will cause pulmonary edema.

Anoxia is one of the greatest causes of increased capillary permeability.

LABORATORY STUDY

AGENT	No. OF ANIMALS	LUNG WGT. BODY WT. RATIO	AVER SURVIVAL TIME	No SUR VIVING MORE THAN 1 HR.	PERCENT SUR VIVAL (Based on No. surv. after 1 hr)
Epinephrine (Control)	20	1.4103	29 mins.	0	0
Ethyl alcohol 10%	15	1.223	8.33 mins.	1	6%
Ethyl alcohol 20%	17	1.3115	24.20 mins.	3	17.6%
# 5526 2 Ethyl hexanol	25	1.0160	29.08 mins.	8	32.0%
# 5507 Silicone-0.01% Supernone-0.75% Glycerin 1% Potassium Bicarbonate-1%	34	0.8393	44.04 mins.	18	53%
Ethyl alcohol 85% (Luisada)	16	1.030	41 mins.	10	62%

* Normal-0.455 (Luisada)

CLINICAL STUDY

INVESTIGATOR	AGENT	No. OF CASES	RESULTS			
			Excellent	Good	Fair	Poor
1. Luisada Goldman Weyl	Ethyl alcohol 95%	17	10	5		2
2. Reich Rosenberg	2 Ethyl hexanol	12	6	3	1	2
3 This study	#5507	7	5	2		

peripheral mechanism

INTRA ALVEOLAR PRESSURE DECREASED IN:

Dyspnea
Obstruction



CAPILLARY PRESSURE INCREASED IN:

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Tuberculosis of the Skin.

ROBERT F. TILLEY, JOHN ADAMS JR., CHESTER N. PRAZIER,
and ROBERT GRIESEMER, Massachusetts General Hos-
pital and Harvard Medical School, Boston, and
GEORGE ODLAND, Seattle.

A group of patients with tuberculosis of the skin was treated with isoniazid. Long-term follow-up studies show the results of this therapy. A chart depicts the various investigative procedures employed in establishing the diagnosis. Before-and-after clinical photographs are included.

Exhibit shows the effect of a relatively new drug against certain skin tuberculosis. Because this group of diseases is not very common in this country we have had the opportunity to use medication in only a few cases.

The two types, namely lupus vulgaris and tuberculosis cutis verrucosa, respond to isoniazid in dramatic visible improvement appearing within a few weeks. The patient seems to be clinically cured in about eight weeks. To date in these two diseases there have been no relapses. Biopsies at the end of isoniazid therapy showed no histological evidence of tuberculosis. There was no response in two cases diagnosed as lupus vulgaris disseminatus faciei. The response in four cases of erythema induratum was equivocal.

The treatment was started early in 1952 and kept up for one year empirically. The patients were watched for drug reactions: renal, hematopoietic, neurologic and hepatic. None was noted. One patient developed some nausea and vomiting on the daily dosage of 300 mgm. but tolerated 200 mgm. a day.

The treatment given in this series of cases consisted of 100 mgm. of isoniazid by mouth three times a day. Prior to this form of medication various methods of treatment had been used. It has been as effective as the other methods.

LUPUS VULGARIS

BEFORE



ISONIAZID
100 mg T I D
for one year

Female Age 69 years - Duration of disease 33 years-
Areas of involvement - Face neck and scalp
Prior therapy - Ointments and lotions, radium,
Ultra violet radiation, Cod Liver
Oil, calcium, silver nitrate strepto-
mycin, plastic surgery

AFTER



LUPUS VULGARIS

BEFORE



Male Age 67 years ~ Duration of disease 47 years.
Areas of involvement ~ Left ear and adjacent areas. Right knee.

Prior therapy

~ Silver nitrate ultra violet radiation,
gold intravenously Nitric acid,
curettage phenol ethyl hydrate
bismuth plastic surgery calciferol
streptomycin

AFTER



ISONIAZID
100 mg TLD
for one year

LUPUS VULGARIS

BEFORE



ISONIAZID
100 mg. T I D
for one year

Male. Ag 83 years - Duration of disease 8-9 months.
Areas of involvement - Left buttock
No prior therapy

AFTER



TUBERCULOSIS VERRUCOSA CUTIS

BEFORE



ISONIAZID
100 mg T.I.D.
for one year

Male Age 54 years - Duration of disease 6 months.
Area of involvement - Finger
No prior therapy

AFTER

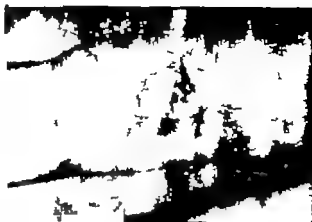


CLINICAL ENTITY	LUPUS VULGARIS	TUBERCULOSIS EUTIS VERRUCOSA	ERYTHEMA INDURATUM	LUPUS MILIARIS DISSEMINATUS FACIEI
Number of cases	8	2	4	2
Skin biopsies consistant with disease before treatment	8	2	4	2
Chest x-ray compatible with old tuberculous infection	One showed old tuberculosis of left upper lobe	0	One showed calcification of lung consistant with Gohn complex	0
Clinical findings compatible with tuberculosis elsewhere	2 Scrofuloderma	2 Scrofuloderma	0	0
Positive reaction to tuberculin test				
O T 1/1000		1	1	
O T 1/10000	3	1	2	1
O T 1/100000	5		1	
P.P.D. 1st strength				1
Number of guinea pig inoculated	6	2	0	0
Positive guinea pig reactions	1	2		
Patients				
Clinically well to date	8	2		
Partial improvement to date			4	
No improvement				2

Tissue impression culture for acid-fast organism made in biopsy material from the four cases of erythema induratum were all positive. Culture of the same material using a variety of media and temperatures were all negative.

TUBERCULOSIS VERRUCOSA CUTIS

BEFORE



ISONIAZID
100 mg T I D
for one year

Male Age 54 years - Duration of disease 6 months.
Area of involvement - Finger
No prior therapy

AFTER



CLINICAL

Number of

Cases
not

BASAL CELL EPITHELIOMA

a papule or nodule which slowly increases in size by erythematous and telangiectatic, progressing on, crusting and a rolled, pearly border. Pigmentation may be present. They most often occur on the face. Biopsy is always advisable. Treatment: See all Carcinoma.

Positive:

test
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HISTOPATHOLOGY

Structure varies from solid islands to cystic or lecy for nodules but all are composed of ovoid cells which are more hyperchromatic than squamous cells.

SENILE KERATOSIS

Hyperkeratotic, yellowish brown lesions which vary considerably in size. Scale is usually dry and adherent. Most often on face and hands. Malignancy develops not infrequently; it should be suspected whenever there is accompanying erythema. Treatment: Excision, electrocoagulation or irradiation.

HISTOPATHOLOGY

Hyperkeratosis and acanthosis of the epidermis plus an infiltrate of plasma cells and lymphocytes in the upper part of the coria. When malignancy develops, it is usually squamous cell carcinoma, but, rarely it may be basal.



SEBORRHEIC KERATOSIS

Hyperkeratotic, pigmented lesions which have a greasy scale. They have stuck on appearance and sometimes have verrucous surface. Tend to develop later in life. Usually seen on upper trunk and face. Must be differentiated from a pigmented nevus. Treated for cosmetic purposes only. Easily removed by fulguration and curettage or cryotherapy. They do not respond to radiation.

HISTOPATHOLOGY

Lesion may be flat or raised, but in any case there is invagination of epithelium with cyst formation. Marked melanin pigmentation of the basal and dendritic cells. Hyperkeratosis is present superficially and in the cysts.



XANTHELASMA

Yellow to red papules which vary from a few mm. to 1 cm. or more in diameter occurring in the skin of the eyelids. Blood lipids are elevated in a large percentage of these cases and cardiovascular disease may be present. The lesions may be removed surgically but new ones are likely to occur.

HISTOPATHOLOGY

Typical of the entire xanthoma group the predominant feature being the presence of xanthoma or foam cells containing lipids which are responsible for the yellow color seen grossly.



GRANULOMA PYOGENICUM

Erythematous, pedunculated tumors varying from a few mm. to 1 cm. or more in diameter. Crusting and purulent secretion are sometimes present. Tend to occur at sites of injury. Most often on the extremities or face. They may respond to antibiotic treatments. If not, excision and fulguration are indicated.

HISTOPATHOLOGY

Typical picture is that of granulation tissue with proliferation of capillaries and infiltration with all types of inflammatory cells. Older lesions show advanced proliferation of fibroblasts and atrophy of capillaries, with loss of vascularity and cellular infiltration.

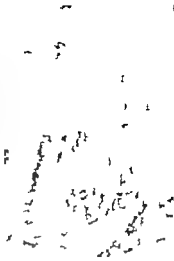


CHONDRODERMATITIS NODULARIS CHRONICA HELICIS

Well defined inflammatory nodule usually few mm. in diameter and covered with an adherent scale. The nodules vary from skin color to red or yellow. They are painful to pressure and usually located on the helix of the upper portion of the ear. Etiology not known. It is necessary to remove portion of the cartilage to prevent recurrence.

HISTOPATHOLOGY

Non-specific chronic inflammation of the subcutaneous tissue with edema, degeneration of collagen and elastin, and vascular proliferation. Thickening of the perichondrium and degenerative changes of the cartilage.



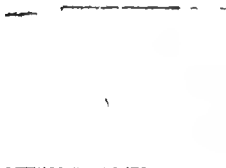
Courtesy of Department of Dermatology
University of Michigan

CRANULOSA ANNULARE

Papules or nodules which tend to be grouped in a ring. These are firm, deep seated and usually skin colored; are on hands, wrists, elbows, neck, feet, ankles, and buttocks occasionally on other portions of the body. They most often occur in children and young people. Asymptomatic etiology not known. Usually they disappear spontaneously sooner or later.

HISTOPATHOLOGY

Varying stages of collagen degeneration within the corium plus deposits of mucin. Inflammation and stellate arrangement of fibroblasts peripherally.



MILKERS' NODULES

Usually solitary nodules which occur on the hands or other portions of the skin exposed to the cow udder. The nodules are from a few mm to a few cm. in diameter and are quite inflammatory. Type of lesion and history of eczematous milk diagnosis. Lesions are produced by virus which is very similar to vaccinia. They undergo spontaneous resolution within several months.

HISTOPATHOLOGY

Histologic changes not diagnostic. Early infiltrate of polys, later predominantly lymphocytes and plasma cells with occasional giant cells. New capillaries form in the inflammatory area.



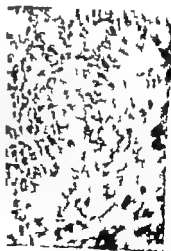
NEVUS PIGMENTOSUS

These appear on the skin in a wide variety of color size and elevation. They vary from a few mm. in diameter to lesions covering a large part of the trunk. They are given various names depending on the presence of hairs, character of the surface, etc. The junction nevus belongs in this group. It is usually dark colored, flat and non-hairy. Pigmented basal cell carcinoma and melanomas must be differentiated from this group. If a nevus is in an area where it is constantly traumatized it should be treated. The soft papular or pedunculated hairy nevus may be partially removed by electrofulguration for cosmetic purposes with little danger. The junction type, if treated, should be excised for biopsy. Treatment of

the "in" between nevus is more controversial. If there is any doubt about the treatment of choice, excision and biopsy is advisable.

HISTOPATHOLOGY

Nevus cells are oval or cuboidal with large vesicular nuclei. They are arranged in clusters beneath a relatively normal epidermis. Pigment, when present, tends to be near the epidermis. Junction nevi show marked degree of cellular activity of the epithelial cells at the junction of epidermis and dermis, usually with pigmentation.



Courtesy Department of Dermatology
University of Michigan

MALIGNANT MELANOMA

The possibility of melanoma should be ruled out whenever there is a darkly pigmented nodule or papule on the skin which has increased in size. Melanomas are most common on the face, hands or feet. Treatment of choice while excision of the melanoma. Removal of the regional nodes must be decided upon in each case.

HISTOPATHOLOGY

The tumor is histologically invasive and is made up of large polyhedral cells. They contain abundant melanin but there may be little or no melanin in some tumors or their metastases.



Courtesy Department of Dermatology
University of Michigan

HISTOPATHOLOGY

A group of vessels containing blood which usually is located in the dermis but may also extend into the subcutaneous tissue.

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CAPILLARY NEVI (PORT WINE MARK)

Flat erythematous are varying widely in size and shape. Erythema disappears on diascopic pressure. Most frequent on back of neck but may be seen on any portion of the body. Refractory therapy difficult. "Cover Mark" will camouflage the lesion very effectively. Thorium X-ray therapy are satisfactory in some cases. Con-
tional or adjuvant are contraindicated.



Courtesy Department of Dermatology
University of Michigan

NEVUS ARANEUS (SPIDER NEVUS)

Small vascular papule from which telangiectatic vessels radiate simulating the legs of spider. Diascopic pressure results in blanching. Most frequently seen on the face. Easily treated by electrolysis.

HISTOPATHOLOGY

Not characteristic. Dilated vascular channels are the chief feature.



SENILE ECTASIAS

Erythematous papules few mm. in diameter which are rather difficult to bleach on diascopic pressure. Occur most commonly on the trunk of elderly people. May be removed by electrofulguration for cosmetic purposes.



HISTOPATHOLOGY

Consist of dilated capillaries resembling capillary hemangioma.



*Courtesy Department of Dermatology
University of Michigan.*



CAVERNOUS HEMANGIOMA

Vary in character and color depending on the depth. Superficial lesions are bluish red, frequently with an irregular surface. Deeper tissues may also be involved. Usually develop soon after birth. Hemangiomas may be temporarily reduced by pressure. Many of these lesions disappear spontaneously between 2 and 6 years of age. If there are measurable signs of growth, treatment depends on the method with which the physician is most familiar. We prefer gamma rays of radium or x-rays, depending on the size and depth.

HISTOPATHOLOGY

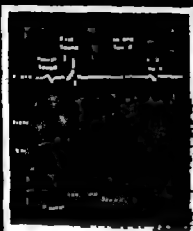
Usually located in the upper corium, readily recognized in the typical form as vascular spaces lined with endothelium and containing blood.

Patterns of Cardiovascular Pressure Pulses Obtained by Catheterization.

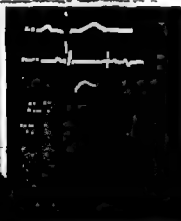
ALDO A. LUSADA and C. K. LIU Chicago Medical School
Chicago.

An improved method of obtaining pressure pulse from the heart and vessels was successfully employed. It is based on the use of photographic recording, high-speed film, full utilization of the amplifying power of an electromagnetometer and simultaneous tracing of phonocardiogram. With this method tracings of the aorta, right ventricle and left ventricle pulmonary artery and aortic P. A. tracings were recorded in normal man and normal dog. Simultaneous pressure tracings and EKGs of

ASCULAR PHYSIOLOGY ART CATHETERIZATION



Graph showing pressure pulses obtained from the aorta, right ventricle and left ventricle during the catheterization procedure.



Graph showing pressure pulses obtained from the aorta, right ventricle and left ventricle during the catheterization procedure.



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HEAR BATH SLOW SPEED TRACINGS SCHEMES OF PRESSURES



1. This trace shows the pressure in the right ventricle of the heart during a slow speed tracing. The pressure is low and the trace is smooth.



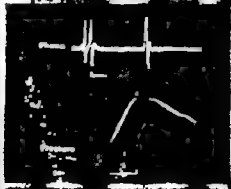
2. This trace shows the pressure in the left ventricle of the heart during a slow speed tracing. The pressure is high and the trace is smooth.



3. This trace shows the pressure in the right ventricle of the heart during a slow speed tracing. The pressure is low and the trace is smooth.

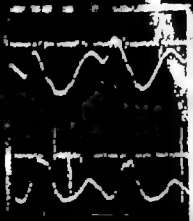


4. This trace shows the pressure in the right ventricle of the heart during a slow speed tracing. The pressure is low and the trace is smooth.

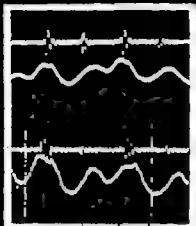


5. This trace shows the pressure in the left ventricle of the heart during a slow speed tracing. The pressure is high and the trace is smooth.

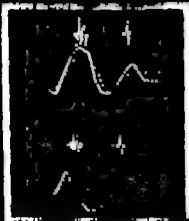
URE PULSES ATRIUM VENAE CAVAE



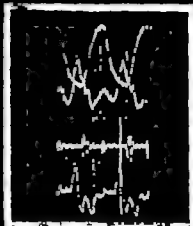
Normal atrial and right ventricular leads. The P wave is normal. The QRS complex is normal. The T wave is normal. The P wave is normal. The QRS complex is normal. The T wave is normal.



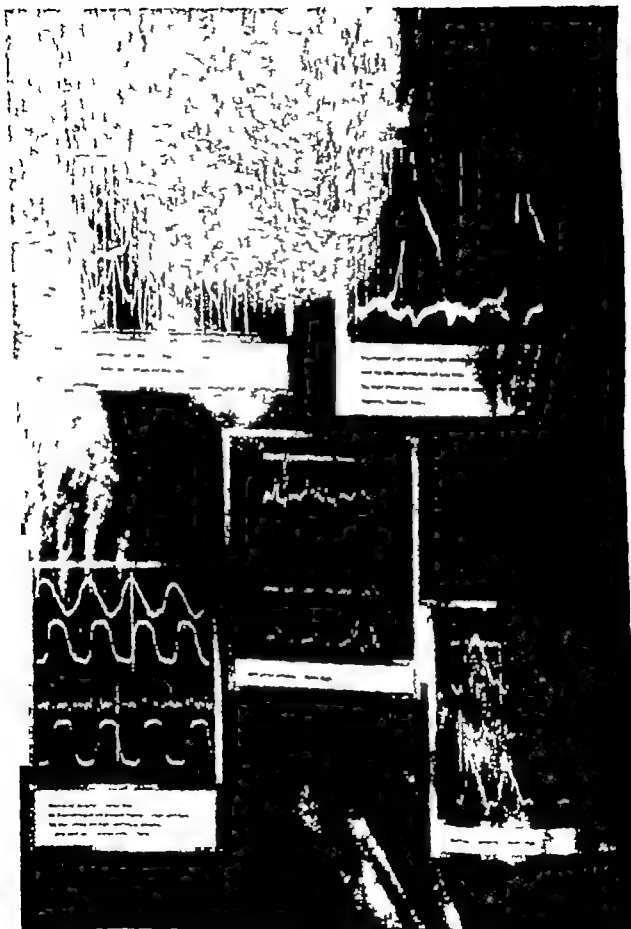
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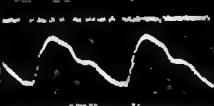




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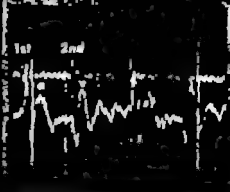
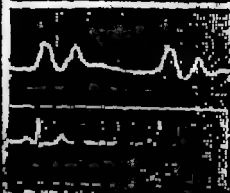
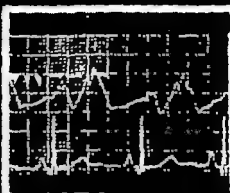
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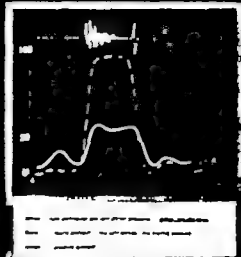
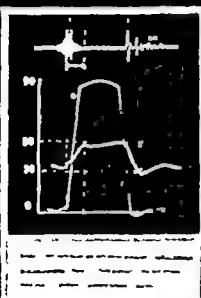
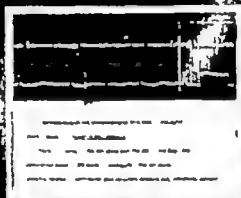
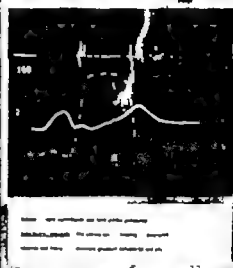
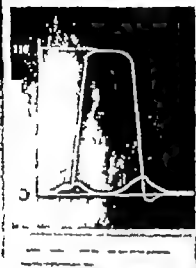


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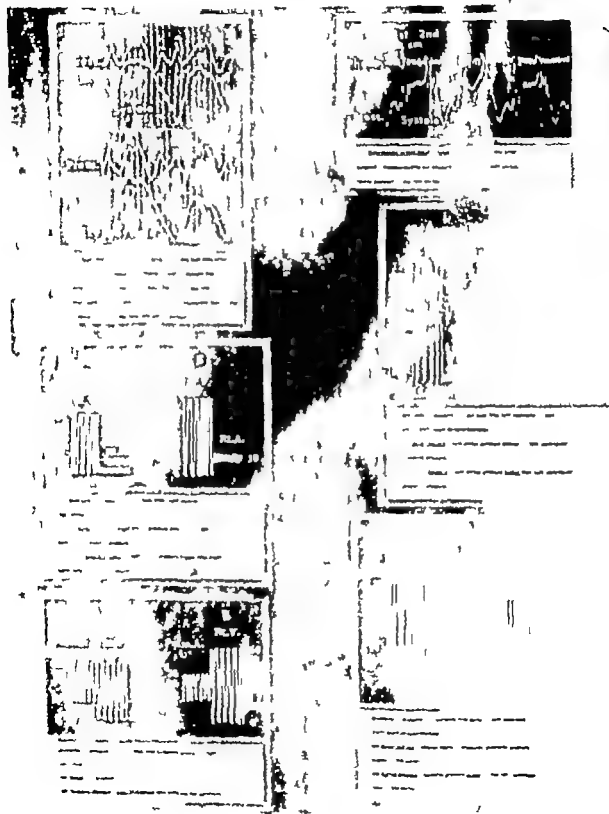


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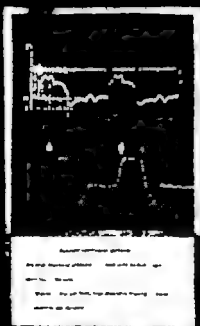
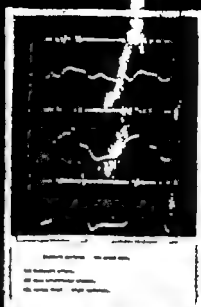
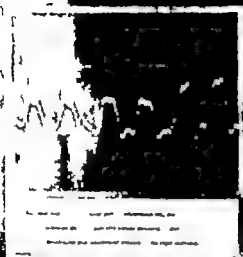
LEFT ATRIAL AND LEFT VENTRICULAR PULSES IN MITRAL VALVE DISEASE



EXPERIMENTAL MITRAL NOTCH SCHEMES OF PRESSURE GRADE VALVULAR STENOSIS



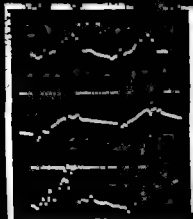
ABNORMAL INTRICULAR PRESSURES



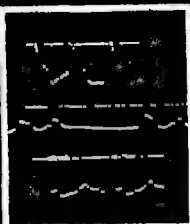
SONIC PULSES



Sonic pulse profile.
The pulse is generated by the sonic pulse generator.
The pulse is generated by the sonic pulse generator.
The pulse is generated by the sonic pulse generator.



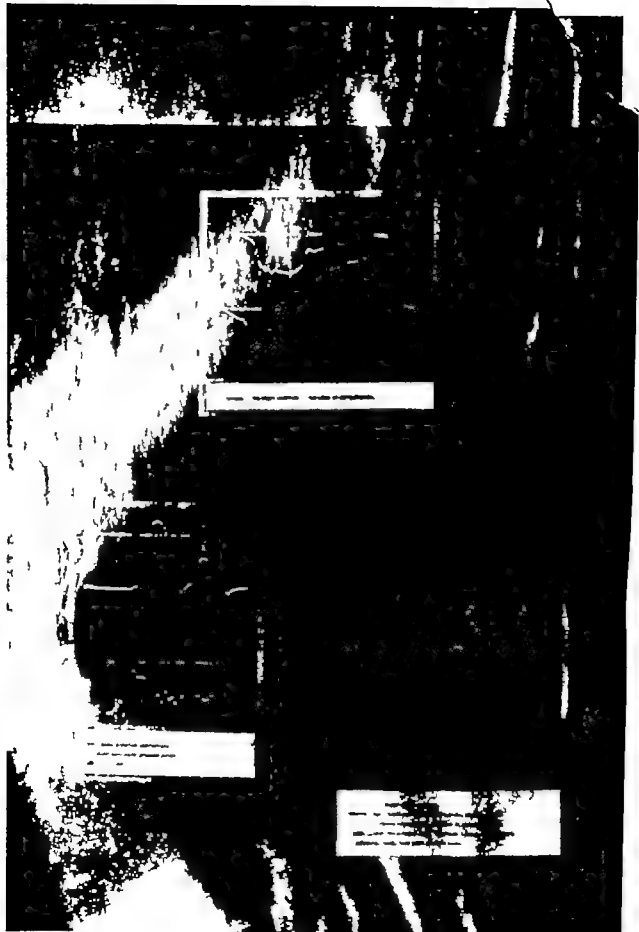
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Today, we have a new standard for the way we do business. We have a new standard for the way we do business. We have a new standard for the way we do business.

THE NEW STANDARD FOR THE WAY WE DO BUSINESS

THE NEW STANDARD FOR THE WAY WE DO BUSINESS

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THE NEW STANDARD FOR THE WAY WE DO BUSINESS



The graph shows a fluctuating trend over time. The y-axis is labeled 'Sales' and the x-axis is labeled 'Time'. The line starts at a low point, rises to a peak, falls to a trough, rises to another peak, and then falls again.



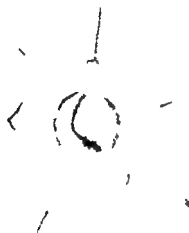
The graph shows a fluctuating trend over time. The y-axis is labeled 'Sales' and the x-axis is labeled 'Time'. The line starts at a low point, rises to a peak, falls to a trough, rises to another peak, and then falls again.

**Mitral Insufficiency: Correction by Polar Cross
Plication of the Annulus Fibrosus.**

HENRY T. NICHOLS, CLARENCE DENTON, and JOSEPH F.
UNICHO, Hahnemann Medical College Philadelphia.

A variety of methods for the surgical correction of mitral insufficiency has been proposed by this group. After the initial attempt, gradual improvement were made and the present technique evolved and is presented. This method consists of approximating the posterolateral aspect of the AV annulus. This simple method succeeds in bringing into

P A T H O L O G Y



**Type 1 Scarred and
retracted leaflet**

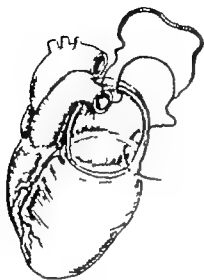


**Type 2 Scarred and
retracted chordae**



**Type 3 Dilatation of
atrio ventricular ring**

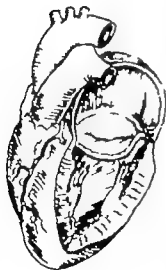
SURGERY



Placement of suture



Suture in position



Suture tied outside of heart

PRINCIPLES OF SURGERY

- 1 Leaflets approximated so they make contact during systole
- 2 Sutures placed to include substance of mitral annulus at two selected points on septal and mural portions respectively - annulus is only available structure capable of holding sutures under tension
- 3 Leaflet action not compromised
- 4 Physiological stenosis not produced cross sectional area at valve annulus considerably greater than at valve orifice
- 5 Permanence of polar cross-fusion insured by
 - (a) Non-absorbable suture (80 # Test Braided Dacron)
 - (b) Bulk of suture plus pericardial cushion (guards against cutting through)
 - (c) Fibrous bridge between approximated areas of annulus (pericardial encasement of Dacron suture)

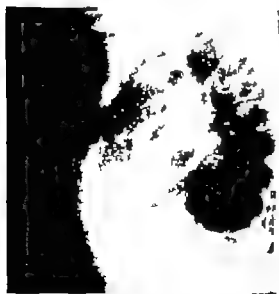
CLINICAL RESULTS



Case M. S. Pre-op scout film
needle in left ventricle



Case M. S. Pre-op diodrast
injection into left ventricle
dye entering left atrium



Case M. S. Post op scout film
needle in left ventricle



Case M. S. Post-op diodrast
injection into left ventricle

CLINICAL RESULTS

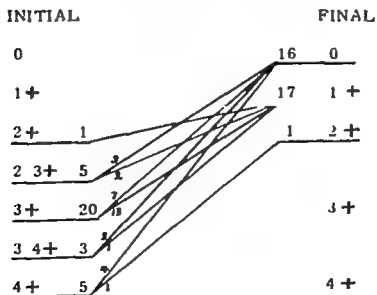


Case L S Pre-op
teleoroentgenogram



Case L S Post-op
teleoroentgenogram

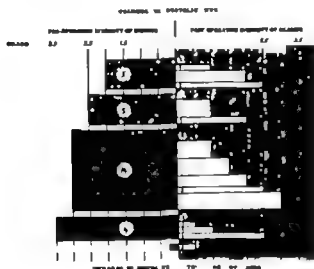
ESTIMATED M I AT SURGERY



CLINICAL RESULTS

Total Cases Operated	34
Deaths	5
Mortality	14 7%

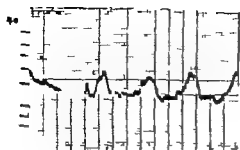
No Deaths Occurred in Operating Room
 No Cases of Cardiac Arrest During Surgery
 1 Case of Ventricular Fibrillation During
 Surgery (restored)



CAUSES OF DEATH.

- 1 Occlusion of Right Coronary Artery (avoidable by present techniques)
- 2 Associated Aortic Stenosis and Aortic Insufficiency
- 3 Hypotension (occurred during thoracotomy and continued for 7 hours post-operatively)
- 4 Head injury (33 days post operatively)
- 5 Bacterial Endocarditis

CLINICAL RESULTS



PRE OP



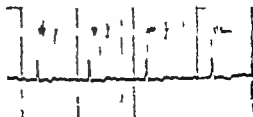
POST-OP

Left atrial tracing by cardiac catheterization

PRE OP



POST-OP



Phonocardiograms

Special Exhibit on Pulmonary Function Testing

The Special Exhibit on Pulmonary Function Testing is presented by the Section on Diseases of the Chest. It has been developed and continued with the help of many individuals, under the auspices of the following General Committee and representatives of Government Service:

GEORGE R. MENDY, Nashville, Tenn., Chairman.
ALBERT H. ANDREWS JR., Chicago.
ALVAN L. BARACH, New York.
DEN V. BRANSCOMB, Birmingham, Ala.
ROBERT A. BRUCE, Seattle.
JAMES J. CALLAWAY, Nashville, Tenn.
DAVID W. COOKELL, Chicago.
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JOHN H. SEABURY, New Orleans.
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WILLIAM W. STRAD, Minneapolis.
PETER A. THEODOS, Philadelphia.
J. F. TOMLINSON, Columbus, Ohio.
DONALD S. TYSON JR., Dothan, Ala.
RODIN WILSON, San Francisco.

Representatives of Government Service:

W. CLARK COOPER, Cincinnati, U. S. Public Health Service.
MARTIN M. COMANCOS, Washington, D. C. Veterans Administration.
ARISTON GRAYZER, Pensacola, Fla., U. S. Navy.
JAMES WEIR, Denver, U. S. Army.

The exhibit emphasizes practical problems in the establishment of a "lung station" suitable for hospital or clinic, i. e., laboratory designed to aid in diagnosis, prognosis, therapy and the evaluation of disability in pulmonary disease in much the same manner that "heart station" serves the needs of clinicians concerned with heart disease.

Emphasis is placed on equipment that is of low initial cost; that does not require extensive shop work to modify, assemble, and maintain; and that has withstood the test of time. Methods used are sufficiently simple to be mastered by physicians and technicians without long periods of specialized training and are rapid in the interest of adequate patient turnover. Previous training and the individual preference of the responsible physician are important factors in the selection of equipment and methods.

There will be actual demonstration of equipment by physicians experienced in pulmonary function testing. (The inclusion of any piece of commercially available apparatus in this exhibit does not necessarily constitute an endorsement of that particular piece in preference to a similar piece produced by another manufacturer.)

The exhibit will be demonstrated by various members of the Committee and other volunteers. A list of those adding in the demonstration and the hours at which they will be present will

be posted in the exhibit. The names of those demonstrating at any particular time will be prominently displayed.

Antitubercular Therapy in Tuberculosis.

FRANCIS J. MURRAY, Tuberculosis Program, U. S. Public Health Service, Washington, D. C.

The exhibit presents a graphic comparison of x-ray changes, sputum conversion, and bacterial resistance among patients treated in 29 hospitals with various combinations of streptomycin, P.A.S., and isoniazid. This is cooperative clinical investigation coordinated by the Tuberculosis Program, U. S. Public Health Service, Washington, D. C.

Activity of Tuberculosis by Corticosteroid Therapy

GEORGE S. BEHR, WILLIAM LESTER, E. A. PRIZOZZ, and ELI SIKELAROFF, Scripps Clinic, Cook County Tuberculosis Sanatorium, Hinsdale, Ill.

This exhibit includes x-ray films and clinical histories demonstrating the reactivation of tuberculosis in individuals under corticosteroid therapy. The common everyday use of corticosteroids for many clinical conditions such as rheumatoid arthritis, asthma, and strokes should be pointed out by x-ray films of the chest to rule out previous known or unknown tuberculosis activity.

Tuberculosis Today

ALBERT R. ALLEN and JAMES A. YU, Central Washington Tuberculosis Hospital, Seattle, Wash.

Three hundred thirty consecutive patients with proved tuberculosis, admitted over three-year period and treated with streptomycin and isoniazid, para-aminosalicylic acid, and isoniazid, plus early surgery has indicated, are reported on here. These cases cover all types of tuberculosis—primary, reinfection, pulmonary and extrapulmonary. One hundred thirty-two moderate and severe cases were 120 pulmonary resections, 81 with bone tuberculosis, 2 pleurotomy, and 3 with ureteral stenosis; 3 died from tuberculous complications within the first 10 postoperative days. All but two have been discharged and only two have remained, one with pulmonary disease who was treated again, had one with renal infection. The latter 100 were treated with combined drug therapy. Six deaths due to tuberculosis occurred in this group. Five in children under 4 years of age with meningitis. Representative cases of each type of disease are shown, with x-rays and clinical pictures of patients. Our mortality in the entire series is 2.3% with treatment failure in another 1.3%.

Mixed Diagnoses.

JOHN L. WILSON, National Tuberculosis Association, New York.

The exhibit includes the case histories of patients with pulmonary abscess, complicated with x-ray film. The doctor can make his diagnosis, then, he can check himself by taking the film to see if there is air or fluid in the abscess. The cases presented avoid the physical and treatment difficult or unusual abscess.

The resection rate is only 5%, in spite of returning all patients to their previous occupations immediately after discharge. Signs of physical condition improved. It includes results of x-rays, blood tests, and sputum. Only one patient remained hospitalized, two successful breast cancer cases, and one more.

Further Studies on the Use of the Corynebacterium in Skin Testing Methods.

HARRY SEITZMAN, Philadelphia, and HARRY COOPER, Derby, Colo.

The Corynebacterium, adapted, with method for skin testing for rubber plants and histoplasmosis, is compared to present-day methods of skin testing. Further studies on coccidioidomycosis and histoplasmosis are presented. Innovative work on its application to allergic testing with controls is also shown. The exhibit, in addition to showing the actual skin testing, is supplemented with colored photographs of typical reactions and with identical record of other methods of skin testing.

Bronchial Abscesses.

O. H. FRIEDMAN, COLEMAN B. RABIN, and R. OWEN, New York.

The exhibit consists of demonstration of the pathological and radiological features of 15 cases, including 4 cases of bronchial abscesses are demonstrated. The incidence of the pathology, form and results of bronchoscopy and surgical treatment.

The Special Exhibit
sponsored by the Sec
developed and con
under the auspices
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GEORGE K.
ALBERT H.
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MAGNUS.
WILLIAM.
PETER A.
J. P. TO.
DONALD.
ROO.

Metastatic Carcinoma, a New Metabolic Disorder

ALBERT SPOERDINA, LUTHER L. TERRY and SIDNEY UCHIMURA, National Heart Institute, Bethesda, Md.

This exhibit contains relatively recently recognized clinical syndromes with interesting metabolic derangements. The associated laboratory findings point out the nature of the metabolic defect in tryptophan metabolism and characterize the syndrome. The exhibit shows illuminated photographic characteristics of the patient with this syndrome during one of the characteristic phases. A control photograph is also presented for comparison. The characteristic clinical findings, laboratory findings, and etiology of the tumor are also shown. A small leaflet presenting the important aspects of this exhibit is available for distribution at the exhibit.

CLINICAL FEATURES



1. VASOMOTOR DISTURBANCES
superficial vasoconstriction
cutaneous flushes and cyanosis

2. CARDIAC INVOLVEMENT
endocardial and valvular lesions
(pathologic changes and lesions, myocardium)

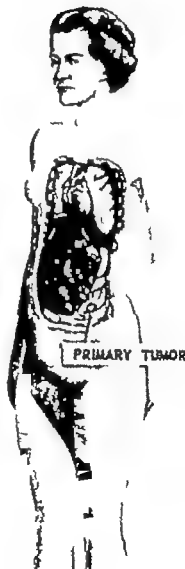
3. BRONCHOCONSTRICTION
cough dyspnea wheezing

4. HEPATOMEGALY
large nodular liver

5. INTESTINAL HYPERMOTILITY
cramps diarrhea vomiting

6. RHEUMATOID ARTHRITIS (?)
noted but not clearly part of syndrome

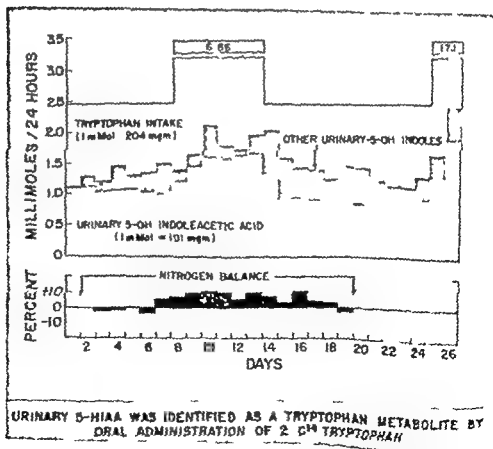
7. ABSENCE OF HYPERTENSION



SEROTONIN AND ITS METABOLITES IN CARCINOID PATIENTS

		Blood Serotonin $\mu\text{gm/ml}$		Urine 5 HIAA mgm/24 hrs		Total Urine 5 OH Indoles mgm/24 hrs
NORMALS		0.1 0.3		2 9		
MALIGNANT CARCINOID	I	2 5		320 392		453
	II	2 4		180		244
	III	0.5 1.5		240 280		345 385
	IV	2.2		28		-
	V	1.2 1.9		380 580		460 865
	VI	-		248		322
	VII	1.7 2.7		214 572		336 640

RELATIONSHIPS TO DIETARY TRYPTOPHAN



SUMMARY

Elevation of blood serotonin and urinary 5 HIAA (serotonin metabolite)

Large amount of serotonin in carcinoid tumor and presence of enzymes required to form and metabolize serotonin

First proof in man of precursor relationship of tryptophan to 5 OH Indole compounds

Confirmation of minimal daily tryptophan requirement in man being 150 200 mgm.

CLINICAL AND METABOLIC IMPLICATIONS

COMPARISON OF TRYPTOPHAN METABOLISM IN NORMAL AND CARCINOID PATIENTS



CORRELATION OF CLINICAL AND METABOLIC FINDINGS

- 1 Overproduction of Serotonin
This naturally occurring amine is known to have a potent action on smooth muscle. It may be directly responsible for the cutaneous flushes, asthma, and tissue substance.
- 2 Deficit of other Tryptophan Metabolites
 - a. Niacin Deficiency: cutaneous lesions of pellagra noted in several cases.
 - b. Protein Deficiency: loss of weight and tissue substance.
- 3 The combined effect of 1a and 2b should be considered in any explanation of the pathophysiology, particularly with regard to the endocardial and valvular heart lesions, which are late manifestations of the syndrome.

**The Action of Mercurial Diuretics and the Fractionation
of Excretory Products.**

CARROLL A. HANDLEY JOHN H. MOYR, and R. A. SERRA
Baylor University College of Medicine, Houston,
Texas.

This exhibit is concerned with the dosage response to orally given chloromercuron and acetazolamide and to parenterally given mercuricide in patients with congestive heart failure. Diagrams show the site of action on the nephron and the changes in electrolyte secretion induced by chloromercuron. Diagrams illustrate method for separating the excretory products from mercuricide administration and the rates of excretion of these products.

THERAPY

In the drug therapy of heart failure, the therapist may select agents which

1. Act directly improving cardiac function
(cardiac glucosides)
2. Act directly on the kidney, increasing
electrolyte and water excretion with secondary
improvement of cardiac function (diuretics)

PROBLEM

In heart failure there is a decrease in cardiac output which results in reduced renal blood flow and glomerular filtration rate

These reductions in the supply to the nephron are accompanied by retention of sodium chloride, and water resulting from increased reabsorptive activity in the renal tubule. These decreases in supply to the nephron and excretion by the tubule combine to produce retention edema.

**THIS EXHIBIT IS CONCERNED PRIMARILY WITH
THE EFFECTS OF MERCURIAL DIUR**

ORGANIC MOLECULE OR INORGANIC MERCURY ?

In what form are the organomercurials active? Little work has been done on this problem. According to popular conception the body removes mercury from the organic compound and this inorganic mercury produces the diuresis. In the case of Mercuhydrin at least, this is not true. Almost all of the Mercuhydrin is excreted as the organic compound. The small remainder excreted as Mercuhydrin degradation products, is it sufficient to account for the diuresis?

ADSORPTION CHROMATOGRAPHY METHOD USED FOR SEPARATING THE EXCRETORY PRODUCTS OF MERCUHYDRIN

METHOD

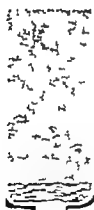
The urine containing the excretory products from the Mercuhydrin is introduced into chromatography column packed with acid silicic acid.

MERCURY AS DEGRADATION PRODUCTS OF MERCUHYDRIN

A small fraction of degraded Mercuhydrin can be washed through the part of column by water alone. The mercury released is a highly soluble form, given off as a gas by the action of the acid.

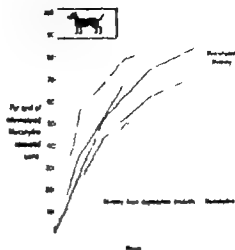
MERCURY AS MERCUHYDRIN

A major part of the Mercuhydrin remains together, the major part of it is excreted as the organic compound.

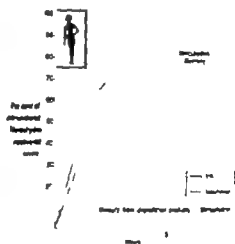


MERCUHYDRIN EXCRETION

MERCUHYDRIN EXCRETION IN 8 DOGS



MERCUHYDRIN EXCRETION IN 6 PATIENTS



THE FATE OF SODIUM IN THE RENAL TUBULE

NORMAL SUBJECT

For every 100 cc of glomerular filtrate,
99 cc of water and
99 % of the sodium
is reabsorbed by the
renal tubules






PROXIMAL TUBULE

Act vs reabsorption
Na⁺
K⁺
Cl⁻
Passive reabsorption
Water

HEART FAILURE

Sodium and water
reabsorption are
increased

-  95 % Na and H₂O reabsorption
-  99.8 % Na and H₂O reabsorption
-  99 % Na and H₂O reabsorption

ORGANOMERCURIAL DIURETICS

Produce reversible
inhibition of renal
tubular mechanisms
for reabsorption of
sodium and chloride



THIN SEGMENT

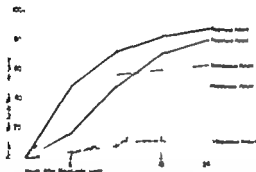
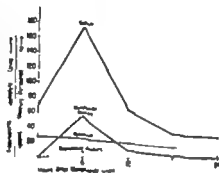
DISTAL TUBULE

Act vs reabsorption
Water
Pass reabsorption
Na
Sodium reabsorption
K⁺

CLINICAL IMPLICATIONS OF MERALLURIDE MERCURY EXCRETION

COMPARISON OF
MERALLURIDE MERCURY EXCRETION
WITH SODIUM AND POTASSIUM EXCRETION
IN NORMAL SUBJECTS

75 mg. of Hg given
(24 hour period)



COMPARISON OF
MERALLURIDE MERCURY EXCRETION
IN UNRESPONSIVE PATIENT
WITH A RESPONSIVE ONE

Sodium increased
and potassium
excretion mercury excretion
the same

Diuresis is uniformly accompanied by excretion of the intact meralluride molecule. In the occasional nonresponsive patient, as would be expected 24 hour recovery of meralluride molecule is lower. Also the percentage of degradation products found in the urine rises. This tends to confirm the conclusion that diuresis is a response to the whole organomercurial molecule, and that degradation products or ionization are not a factor in clinical diuresis.

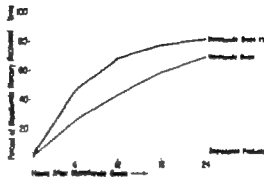
MERALLURIDE MERCURY EXCRETION IN NORMAL SUBJECTS

Percent of Hg Given (78 Mg)
(Average Values)

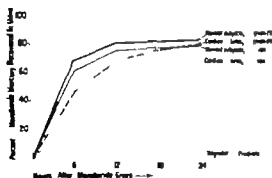


MERALLURIDE MERCURY EXCRETION IN ALL PATIENTS WITH HEART FAILURE

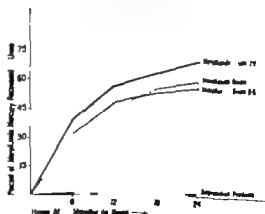
Percent of Hg Given (78 Mg)
(Average Values)



COMPARISON OF MERALLURIDE MERCURY EXCRETION GIVEN IV AND IM NORMAL SUBJECTS AND PATIENTS WITH HEART FAILURE (Average Values)



MERALLURIDE MERCURY EXCRETION IN CARDIAC PATIENTS RESPONSIVE TO THERAPY Percent of Hg Given (78 Mg) (Average Values)



72



Isolation of Pathogenic Bacteria in the Laboratory
 University of Medicine
 1200 North 1st St.
 Philadelphia, Pa. 19104

The exhibit presents information concerning the isolation of pathogenic bacteria in the laboratory. It includes a list of the various types of bacteria that can be isolated, and a description of the methods used to isolate them. The exhibit is designed to provide a comprehensive overview of the field of bacterial isolation and identification.

was demonstrated that the bacteria and the bacteria that were isolated in the laboratory were the same as the bacteria that were isolated in the laboratory. This was done by comparing the characteristics of the bacteria that were isolated in the laboratory with the characteristics of the bacteria that were isolated in the laboratory.

A New Oral Diuretic with Minimal Side-Effects.
 C. G. VAN ARMAN, H. R. DYTTERLACH, and J. P. HODAN
 C. D. Bente & Co., Chicago.

Description of laboratory work on an orally active osmotic diuretic of such structure is presented, with comparison of potency with standard diuretics, including lack of osmotic effect, and blood hemodynamics.

Sulfamerazopyridazine: A New Antifollicular Sulfonamide.
 S. M. HARRY, B. W. CARY, J. F. MORGAN, and C. H. DEDAO, Lederle Laboratories, Pearl River, N. Y.

The exhibit presents information concerning the antifollicular activity of sulfamerazopyridazine. It includes a list of the various types of bacteria that can be isolated, and a description of the methods used to isolate them. The exhibit is designed to provide a comprehensive overview of the field of bacterial isolation and identification.

Lydas Needs in Nutritional Stress of the Aged.
 ANTHONY A. ALABRICK, RONALD A. HIGGINS, and LOUISA A. ORTO, St. Luke's Convalescent Hospital, Greenwich, Conn.

Findings of extended studies indicate that the healthy aged are able to maintain themselves in good nutritional status on a daily minimum intake of approximately 54 gals. of protein in a self-selected diet of about 1,500 calories. However, under conditions of nutritional stress from any cause, this intake of protein (or even greater amounts) has been found to be insufficient for the rapid resolution of nutritional stress. Our presentation attempts to demonstrate that supplementing the diet of aged convalescents with lysine, because it corrects protein acid metabolism and thereby increases protein utilization, offers practical and promising means of treating protein deficiencies and accelerating tissue reconstruction.

Hypertension: A Study of the Mechanism of Therapy
 JOHN H. MOYER, RALPH V. FORD, EDWARD W. DEDAO, ROBERT MCCOY, and COLMAN CARPENTER, Baylor University College of Medicine, Houston, Texas.

This exhibit contains several of the pharmacodynamics of various drugs that are used for the treatment of hypertension. An attempt will be made to (1) show how drug response of hypertensive patients gives information relative to etiologic factors in the origin of hypertension, (2) demonstrate causal relations to blood pressure reduction with various antihypertensive agents, especially penicillins, (3) present an assumed illustration of the origin of hypertension and the effect of drug action upon treating this disease, and (4) present the clinical applications of these principles for the practicing physician.

Headache.
 RICHARD JUDOVICH, GOLDA R. NIKEL, PEDRO POLAKOFF and WILLIAM SAGEN, Philadelphia.

The exhibit shows headaches associated with bacteremia, pneumonia, septicemia, meningitis, myeloma, postoperative state, hereditary cardiac dist., and toxemia. A significant number of patients obtained prompt relief of headache with the use of vasodilating agents. All patients had been treated by placebo and analgesics without satisfactory relief. Placebo reactors were eliminated from the series. In headache that followed neurosurgical investigative procedures, a spray that had comparatively few placebo-reactions, rapid and satisfactory relief was obtained by definite properties of patients, suggesting that vasodilating agents may be one of the factors involved in this type of headache. Clinical observations regarding muscle spasm of the cervical spine and the results of experimental supraspinal muscle spasm during the painful state cast doubt upon the concept that muscle spasm in itself will produce headache.

Proteins and Proteinases in Experimental Bacterial Infections and Toxemia.
 H. SCHICK, O. KUPFER, and A. KOTAR, College of Physicians and Surgeons, Columbia University and Presbyterian Hospital, New York.

The exhibit shows (1) in vitro effect of proteinases and proteinolysis on bacterial cultures, (2) in vitro effect of proteinases or proteinolysis plus an antibacterial or antibiotic on bacterial cultures, (3) in vivo effect of proteinases or proteinolysis plus streptomycin in bacterial infections in mice, and (4) in vitro and in vivo effect of proteinolysis on epithelial tissue.

A New Organic Fibro-Caliche Powder for Exfoliative Diseases of the Skin: Results in 223 Cases.
 CLEVELAND I. WHITE, Stritch School of Medicine of Loyola University and Mercy West Suburbs, and Northwestern-American hospitals, Chicago.

A new organic fibro-caliche powder, especially prepared from mastic, has been found to have exceptional desiccative power for inflammation and exfoliative superficial diseases of the skin. It does not cake and has the ability to absorb almost five times its own weight in fluid. It has been extremely efficacious in exfoliative and hyperkeratotic lesions such as impetigo, scabies, and psoriasis. It has never been known to become a cause of allergic sensitization, and it has never been known to be involved by any known pathogenic fungus of bacteria. The powder has also been found very useful in widespread skin diseases such as pemphigus to absorb the moisture and prevent growth of other organisms.

Blood Dialysis, Blood Oxygenation, and Blood Pumps.
 ARTHUR E. MACNELL, and JOHN H. DUTY, Buffalo.

Clinical and experimental blood dialysis, blood oxygenation, and blood pumps developed in the Synthetic Organ Mechanism program.

Value of Proper Dosage of Anticholinergic Drugs in Treatment of Peptic Ulcers: Optimal Effective Dose.

DAVID C. H. SUN and HARRY SHAY Temple University School of Medicine Philadelphia.

The exhibit shows the effect of anticholinergic drugs on gastric secretion. Results indicate that, in order to administer an effective dose of an anticholinergic drug, one needs to determine the dose of the drug for each patient and not according to body weight or a uniform dose recommended by the pharmaceutical company. This proper dose is termed the optimal effective dose. Comparative studies were done with the recommended dose and the optimal effective dose on basal gastric secretion, digestive secretion, secretion induced by emotional stress and by insulin hypoglycemia, and on gastric emptying. Clinical response with the use of the optimal effective dose of the drug in patients with duodenal ulcer is shown.

INTRODUCTION

Acid-pepsin is one of the factors in the development of peptic ulcer. To achieve optimum conditions for healing of an ulcer, gastric activity should be inhibited by emptying gastric contents at pH 4.5. At pH 4.5, gastric activity is reduced almost to zero. The intent was to accomplish this result through gastric physiologic rest and drugs that either neutralize acid or inhibit gastric secretion. The surgeon by vagotomy and/or subtotal gastrectomy attempts to reduce the output of acid and pepsin.

The contribution by the Ideal Anticholinergic Drug should:

1. Consistently inactivate pepsin by inhibiting acid secretion to pH 4.5 for long periods after and overnight
2. Produce no or minimal side effects
3. Induce no tolerance
4. Be inexpensive

We would emphasize that the use of Anticholinergic Drugs should only be considered part of the overall management of ulcer patients.

The following data indicate objectively that the effectiveness of an Anticholinergic Drug depends upon PROPER DOSAGE dosage tailored for each patient

DRUGS USED IN THIS STUDY

GENERIC NAME

Meprobethalol bromide
Tricyclanil methylnitrate
Methoxyphenol bromide
Propantelolin bromide
Aluminum Hydroxide and Magnesium Trisilicate
Atropine
1. Butylbromide

PROPRIETARY NAME

Duridan
Dormin
Pamox
Probanthine
A. M. T.
Atropine
L. Butylbromide

DRUG EFFECT ON BASAL GASTRIC SECRETION

A. Minimum dose of same drug same patient correlation between dose, accompanying gastric and side effects

Drug	Dose (mg)			Dose (mg)			Dose (mg)			Dose (mg)			Dose (mg)		
	Day	Time	Effect	Day	Time	Effect	Day	Time	Effect	Day	Time	Effect	Day	Time	Effect
1	0.5	10:00	---	10	---	---	10	---	---	10	---	---	10	---	---
	1.0	10:00	---	20	---	---	20	---	---	20	---	---	20	---	---
	1.5	10:00	---	30	---	---	30	---	---	30	---	---	30	---	---
	2.0	10:00	---	40	---	---	40	---	---	40	---	---	40	---	---
2	0.5	10:00	---	10	---	---	10	---	---	10	---	---	10	---	---
	1.0	10:00	---	20	---	---	20	---	---	20	---	---	20	---	---
	1.5	10:00	---	30	---	---	30	---	---	30	---	---	30	---	---
	2.0	10:00	---	40	---	---	40	---	---	40	---	---	40	---	---
3	0.5	10:00	---	10	---	---	10	---	---	10	---	---	10	---	---
	1.0	10:00	---	20	---	---	20	---	---	20	---	---	20	---	---
	1.5	10:00	---	30	---	---	30	---	---	30	---	---	30	---	---
	2.0	10:00	---	40	---	---	40	---	---	40	---	---	40	---	---

Legend: 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00

CONCLUSION

- Suppression of gastric acidity to pH > 4.5
 - Did not occur at any dose without accompanying dryness of mouth, but dose producing dryness did not necessarily produce such pH values
 - Did occur with effective drugs if dose was increased to one increment below that which produced uncomfortable symptoms of parasympathetic inhibition (blurring of vision, palpitation, dizziness, headache, weakness, flushing of face and/or excessive dryness of mouth and throat) —
- THIS DOSE, WE TERMED, OPTIMAL EFFECTIVE DOSE (O.E.D.)

B. Optimal effective dose of different drugs same patient

Drug	Dose (mg)			Dose (mg)			Dose (mg)			Dose (mg)			Dose (mg)		
	Day	Time	Effect	Day	Time	Effect	Day	Time	Effect	Day	Time	Effect	Day	Time	Effect
1	0.5	10:00	---	10	---	---	10	---	---	10	---	---	10	---	---
	1.0	10:00	---	20	---	---	20	---	---	20	---	---	20	---	---
	1.5	10:00	---	30	---	---	30	---	---	30	---	---	30	---	---
	2.0	10:00	---	40	---	---	40	---	---	40	---	---	40	---	---
2	0.5	10:00	---	10	---	---	10	---	---	10	---	---	10	---	---
	1.0	10:00	---	20	---	---	20	---	---	20	---	---	20	---	---
	1.5	10:00	---	30	---	---	30	---	---	30	---	---	30	---	---
	2.0	10:00	---	40	---	---	40	---	---	40	---	---	40	---	---
3	0.5	10:00	---	10	---	---	10	---	---	10	---	---	10	---	---
	1.0	10:00	---	20	---	---	20	---	---	20	---	---	20	---	---
	1.5	10:00	---	30	---	---	30	---	---	30	---	---	30	---	---
	2.0	10:00	---	40	---	---	40	---	---	40	---	---	40	---	---

Legend: 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00 10:00

CONCLUSION

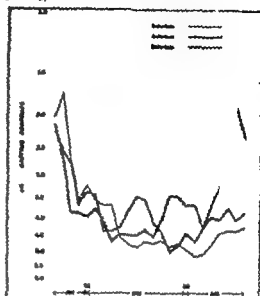
- | DRUG | NUMBER PATIENTS TESTED | EFFECTIVE |
|---------------------------|------------------------|-----------|
| Tricyclic antidepressants | 19 | 19 |
| Meprobamate bromide | 13 | 13 |
| Proprietary bromide | 12 | 11 |
| 1/2 Bactrim | 5 | 2 |
| Atropine | 4 | 2 |
- The O.E.D. and dose calculated as mg/kg body weight for Tricyclic antidepressants, Meprobamate bromide and Proprietary bromide varied considerably and independently from patient to patient. Therefore, to administer an effective dose, dose of the drug must be tailored to each patient, and not according to body weight or recommended uniform dose

DRUG EFFECT ON DIGESTIVE SECRETION

Comparative effects of following schedules on pH of gastric contents, hourly throughout day and night

- Schedule A Milk 7 ozs, cream 1 oz., skim milk powder 1 tbsp, q. h. from 8:00 a.m. to 8:00 p.m.
 Schedule B Schedule A recommended dose (50 mg.) Tricyclonal methylsulfate q. i. d. and at 3:30 a.m.
 Schedule C Schedule A Optimal Effective Dose, Tricyclonal methylsulfate, q. i. d. and at 3:30 a.m.
 Schedule D Schedule A A.M.T. 15 ml., q. 2 h., from 8:00 a.m. to midnight
 Schedule E Schedule A Optimal Effective Dose, Tricyclonal methylsulfate A.M.T.

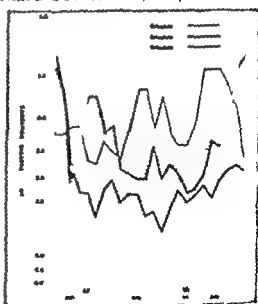
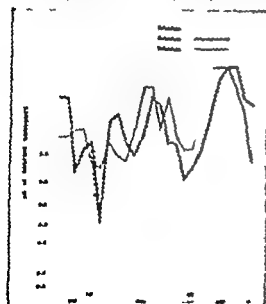
A. Type of response in 4 of 8 patients tested (Responsive to Anticholinergic Drug)



CONCLUSION

1. Milk measure (Schedule A): Ineffective
2. Recommended dose, 50 mg. of Tricyclonal methylsulfate and milk measure (Schedule B): Ineffective
3. O.E.D. of Tricyclonal methylsulfate and milk measure (Schedule C): Effective in maintaining pH 4.5 for long period, especially during the night
4. O.E.D. of Tricyclonal methylsulfate A.M.T. and milk measure (Schedule E): also effective
5. A.M.T. and milk measure (Schedule D): partially effective

B. Type of response in other 4 patients. Nonresponsive to Anticholinergic Drug)-O.E.D. Tricyclonal methylsulfate was ineffective in suppressing digestive secretion. Addition of antacid to O.E.D. was reasonably effective. However combined effect of antacid plus O.E.D. in nonresponsive patient was not as good as result of O.E.D. alone in responsive patient.



DRUG EFFECT ON GASTRIC SECRETION INDUCED BY EMOTIONAL STRESS

Gastric secretion induced by emotional stress —

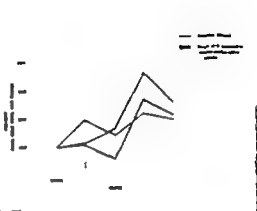
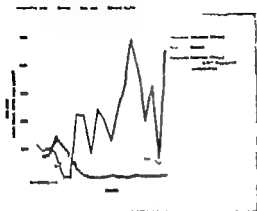
Subject: 38 year old, white male, with Duodenal Ulcer

26 gastric secretory experiments done within 16 months

Control gastric secretory studies done on basal secretion for 8 hours

On day of experiment with psychological stressor, one hour basal secretion was collected, then psychological stressor by psychiatrist, induced by stress, lasted 20 minutes

Gastric secretion collected for total of 8 hours



CONCLUSION

Emotional stress produced early and late phases of gastric secretion, similar to stress produced by gastric hypersecretion stress — even and by hypohydration stimulation — steady (late and short)

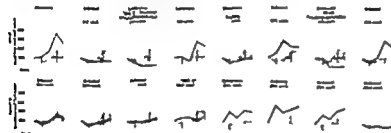
Development of emotional response of gastric secretion — emotional stress

Following graphs show summary of events

Stressor stress represent range of gastric secretion — summative control studies done within 16 months

After psychological stressor (Studies 1, 2, and 5) control study (4) done two weeks later revealed significant stress — gastric secretion, early and late phases. Then, we believe, represent emotional response — both contained in stress was again demonstrated (6) after another psychological stressor (7) and then returned — basal level (8) where remained for weeks (10 and 11)

Reappearance of psychiatrist with no visible instrumentation (12) produced on early phase of gastric secretion and psychological stressor (13) one week later induced both phases of secretion. Conditional response again reappeared (14) and (15) and endocrine stimulation — approximately two months (16)



CONCLUSION

Conditional response of gastric secretion — emotional stress was distinct, varied and explained possibly significant conditions — gastric ulcer problem

1. Basal secretion
2. Stressor stress
3. Control stress
4. Basal secretion
5. Stressor stress
6. Control stress
7. Basal secretion
8. Stressor stress
9. Control stress
10. Basal secretion
11. Stressor stress
12. Control stress
13. Basal secretion
14. Stressor stress
15. Control stress
16. Basal secretion

C. Comparison effect of recommended dose and 10 of hypohydration stimulation on gastric secretion induced by emotional stress

Stressor stress — emotional stress
Hypohydration stimulation — emotional stress
Recommended dose — emotional stress
10 — hypohydration stimulation



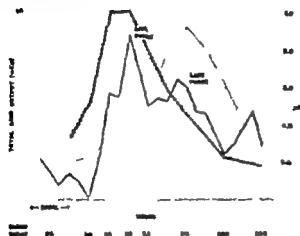
CONCLUSION

10 of hypohydration stimulation produced pronounced inhibition of stress gastric secretion both pH and volume (4.5 for 1 hour) while the recommended dose produced minor depression for 1 hour

DRUG EFFECT ON GASTRIC SECRETION INDUCED BY INSULIN HYPOGLYCEMIA

Two phases of increased gastric secretion were observed after insulin hypoglycemia. Early phase dependent upon intact vagus and late phase dependent upon intact adrenal.

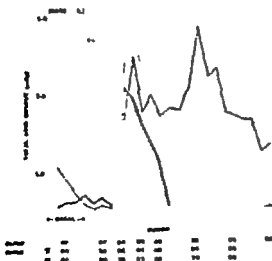
A. Comparison of trend of gastric acid response to insulin hypoglycemia in man and to anterior and posterior hypothalamic stimulation in monkey



Category	Number of cases	Number of deaths
Group 1: All cases, all deaths	100	10
Group 2: All cases, all deaths	100	10
Group 3: All cases, all deaths	100	10
Group 4: All cases, all deaths	100	10
Group 5: All cases, all deaths	100	10
Group 6: All cases, all deaths	100	10
Group 7: All cases, all deaths	100	10
Group 8: All cases, all deaths	100	10
Group 9: All cases, all deaths	100	10
Group 10: All cases, all deaths	100	10

Source: U.S. Census Bureau, *Marriage, Divorce, Remarriage in the 1990s*, Washington, D.C., 1995.

B. Effect of 15-E D-Tricyclonal methylolite on gastric secretion induced by insulin hypoglycemia



CONCLUSION

D.E.D. of trioxonal methylolates produced partial inhibition of early phase (vagal) and pronounced inhibition of late phase (adrenal) of gastric secretion in duod. by insulin hypoglycemia

DRUG EFFECT ON GASTRIC EMPTYING AND INTESTINAL TRANSIT

Comparative studies on the effect of

1. Evaid meal
 2. Evaid meal
 3. Evaid meal
- Placebo
Tryptophan 50 mg
Tryptophan 50 mg

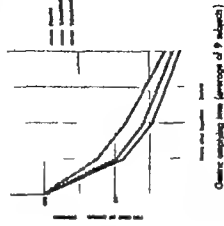
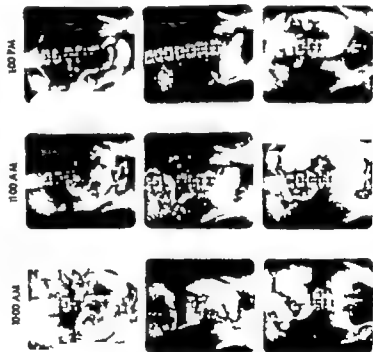
Evaid Meal
9:00 AM

Drug
8:30 AM

Placebo

Tryptophan
50 mg

Tryptophan
50 mg



CONCLUSION

Significantly greater delay in gastric emptying of 1 and 2 hours following T.O.E.D. of Tryptophan 50 mg than when Placebo or Tryptophan 50 mg dose of Tryptophan 50 mg, but no significant differences of 4 hour delay in intestinal transit time was noted after Tryptophan 50 mg.

CLINICAL RESULTS WITH PROLONGED USE OF O.E.O. OF TRICYCLAMOL METHYLSULFATE IN DUODENAL ULCER

Only those patients confined to the

CONCLUSION

[illegible]

Of the 12 patients who are currently on ^{131}I 2.0, one developed pleural effusion after feeding. The other 11 patients have remained free of pleural effusion. Two patients have had repeated O_2 saturation readings on the right and on the left close to normal.

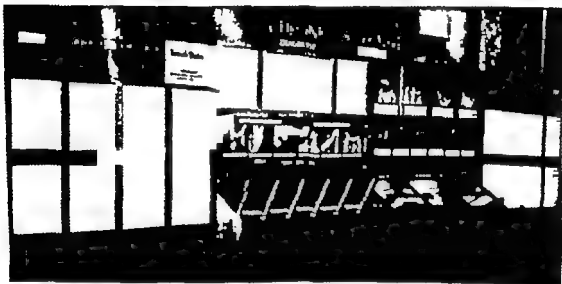
SUMMARY AND CONCLUSION

The superiority of our results during an outbreak of hand Glanders. Sometimes the POD is higher by simple Glanders (Pharyngeal POD) than by the Anthrax-like Drug and its superiority is simple. Accompanying data in a "Hand Glanders" outbreak. The "Hand Glanders" outbreak is caused by *Serratia* effect of hand Glanders and is caused by the use of POD of these drugs in the Glanders management of paper after data. The elements of any outbreak will then follow. Anthrax-like drug administration of POD of these drugs makes it practical for clinical use. This would emphasize that Anthrax-like drug administration of POD of these drugs makes it practical for clinical use.

Chronic Ulcerative Colitis: Diagnostic and Therapeutic Considerations.

N. C. HANITOWER, A. C. BROOKS JR., R. D. HAWES, A. W. SOMMER, and J. F. MCKENNEY Scott and White Clinic, Temple, Texas.

The exhibit stresses the important diagnostic features of chronic ulcerative colitis, including data obtained from the history, physical examination, and laboratory findings of approximately 200 cases observed during a 15-year period at the Scott and White Clinic. Diagrams, tables, montages, and roentgenograms show the principal symptoms, important laboratory data and roentgenographic and proctoscopic findings. The exhibit also depicts the modern management of chronic ulcerative colitis, stressing the importance of diet, bacteriostatic and antibiotic agents, hormones, vitamins, salicylates, and fluid and electrolyte replacement.



Chronic ulcerative colitis is a disease process usually confined to the lower gastrointestinal tract but there may be involvement of other organ systems, structures, and tissues. The etiology is unknown, prevention appears impossible, and no specific cure has been devised. Although the patient afflicted with this condition presents many difficult and challenging problems to the physician, satisfactory management can be attained.

The exhibit includes (1) an analysis of data summarizing our experience with 220 cases of chronic ulcerative colitis, (2) a detailed resume of diagnostic criteria (clinical, laboratory, roentgenographic, and proctoscopic) by which the clinical types of ulcerative colitis are recognized, (3) a classification of the complications into entities responding to medical or surgical management, and (4) a treatment program outlining definitive therapy for uncomplicated and complicated disease.

ANALYSIS OF DATA

CHRONIC ULCER OF COLITIS

228 Cases

SEX

Males	106
Females	114

AVERAGE AGE

Years

Males	33.3
Females	34.5

DURATION OF DISEASE

Years

Males	4.1
Females	5.4

AGE OF ONSET BY DECADES

MALES

Decade	Frequency of Patients
0-9	0
10-19	27
20-29	17
30-39	16
40-49	0
50-59	1
Total	106

FEMALES

Decade	Number of Patients
0-9	0
10-19	24
20-29	23
30-39	31
40-49	18
50-59	5
60-69	1
Total	114

HEMATOLOGICAL DATA

HEMOGLOBIN

Average value 12.1 Gm./100 cc.

ANEMIA

Moderate (10-12 Gm.)	29%
Marked (below 10 Gm.)	17%

LEUCOCYTES

Average value 10,875/cu. mm.

LEUCOCYTES

Moderate (12-20,000)	33%
Marked (over 20,000)	37%

SEDIMENTATION RATE

Average value 41 mm/hr

INCREASED

Moderate (40-50)	29%
Marked (over 50)	39%

EXTENT OF DISEASE

Number of Patients

RECTUM ONLY 41

RECTUM TO AND INCLUDING

Sigmoid	24
Splenic Flexure	23
hepatic Flexure	16
Cecum	65
Terminal Ileum	23

143

SEGMENTAL TYPES 0

RADIOGRAPHY UNSATISFACTORY 0

TOTAL 228

ANALYSIS OF DATA

COMPLICATIONS TREATED MEDICALLY

TEEN LESIONS	13
ARTERITIS	13
HEMORRHOIDS	9
HEPATIC INSUFFICIENCY	6
MENTAL IRREGULARITIES	9
ELECTROLYTE IMBALANCE	3
DRUG DERMATITIS	3
PERIPHERAL NEURITIS	3
EMBOLEMITIS	3
SEXUAL INSUFFICIENCY	3
TOTAL	61

COMPLICATIONS TREATED SURGICALLY

DETACHABLE DISEASE	13
FISTULAE	
In Ano	7
Perianal	2
Perineal	2
Internal	1
PERIANAL ABSCESS	12
POLYPS	4
PERFORATIONS	3
CARCINOMA	2
INTESTINAL OBSTRUCTION	2
HEMORRHOIDS	2
MAJOR HEMORRHAGE	1
ANAL FISTULA	1
TOTAL	43

ASSOCIATED DISEASES

DUCOBAL BLUES	3
HYPERTENSION	3
RESUMATION SPONDYLITIS	3
PSYCHOSIS	3
LOW MENTALITY	3
PSYCHIAS	3
DIABETES MELLITUS	3
PERICULOUS ANEMIA	1
SYMPTOMS	1
MISCELLANEOUS	6
TOTAL	25

CAUSES OF DEATH

CARCINOMA	3
FULMINANT COLITIS	2
PERITONITIS	2
INTESTINAL OBSTRUCTION	1
HEPATIC INSUFFICIENCY	1
PULMONARY EMBOLISM	1
HEPATIC INSUFFICIENCY	1
PULMONARY EMBOLISM	1
LYMPHOSARCOMA	1
TOTAL	17

DIAGNOSIS PROCTOSCOPIC



Fig. 1. Normal rectal mucosa.



Fig. 2. Marked mucosal edema with mucosal ulceration. Ulcers free colitis for two years.



Fig. 3. Moderate ulceration. Colitis for seven years. Four to six bloody stools per day.



Fig. 4. Marked mucosal ulceration. Proctitis duration for 12 years with eight to ten bloody stools per day.



Fig. 5. Same as Fig. 4. Two days of rest, 4 ml. and 400 mg. of two or three non-bloody stools per day.



Fig. 6. Submucosal scarring. Colitis inactive after three months of continuous therapy with 4-aminosalicylic acid.

COMPLICATIONS



FIG 1

Ulcerous perforating abscess of rectum with hepatic metastases in female, age 33, with distant past history of ulcerative colitis. Patient died of septicemia.



FIG 2

Multiple ulcerous and subcutaneous abscesses in male, age 33, with two months with ulcerative colitis. Refractory to medical therapy. Died of septicemia.



FIG 3

Inflammatory stricture of jejunal ileocecal junction in female, age 33, with ulcerative colitis for five years. Bowel active and unobstructed with frequent abdominal colic.



FIG 4

Reorganization of mass on the left side of the abdomen showing increased bowel diameter at site of previous stricture. Bowel active following abdominal surgery.

COMPLICATIONS



ARTHRITIS

Arthritis wrist and proximal interphalangeal joints. Subside in four days with ACTH.



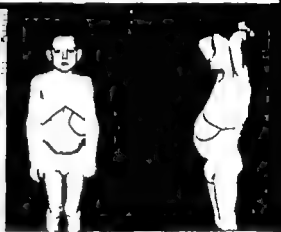
SKIN LESIONS

Symmetrical erythematous and purpuric lesions. Disappeared after 12 days of ACTH.



PERIANAL FISTULAE

Multiple perianal fistulae. Complete healing after total colectomy and ileostomy.



SPLENOMEGALY

Hepatic insufficiency and splenomegaly with ulcerative colitis of two years' duration.



EPISCLERITIS

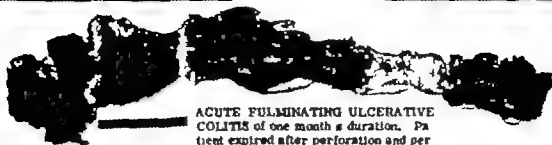
Bilateral episcleritis due to active colitis. Subside in three days with ACTH therapy.



STOMATITIS

Candida albicans stomatitis. Cleared spontaneously with local treatment of ulcers.

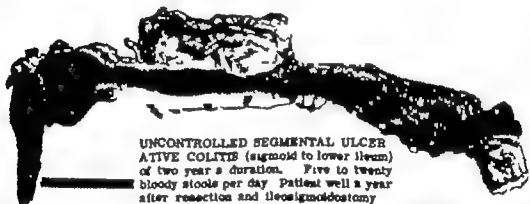
COMPLICATIONS



ACUTE FULMINATING ULCERATIVE COLITIS of one month's duration. Patient expired after perforation and peritonitis. Necropsy specimen.



MARKED NARROWING AND SHORTENING OF COLON Uncontrolled ulcerative colitis for four years. Patient expired fifteen years after colectomy from volvulus of small bowel.



UNCONTROLLED SEGMENTAL ULCERATIVE COLITIS (sigmoid to lower ileum) of two year's duration. Five to twenty bloody stools per day. Patient well a year after resection and ileosigmoidostomy.



EXTENSIVE POLYPOSIS OF COLON Recurrent polyp formation in rectum and in sigmoid. Ulcerative colitis for five years. Patient well one year after colectomy.



ACUTE FULMINATING ULCERATIVE COLITIS of six week's duration. Massive hemorrhages and perforation. Patient well two years after total colectomy and ileostomy.

TREATMENT

UNCOMPLICATED DISEASE

REST

PHYSICAL

Active Disease Hospital

Inactive Disease Home

GASTROINTESTINAL

Anticholinergics

Low Residue Diet

EMOTIONAL

Sedatives

Tranquilizers

Psychotherapy

DIET

LOW RESIDUE

High protein

Appetizing with variety

ADEQUATE CALORIES

2,000 to 3,000 per day

SUPPLEMENTAL VITAMINS

Thiamin Chloride

Ascorbic Acid

Vitamin A and B

SALFON URIDE THERAPY

SALICYLACETYL PIPERIDINE (Araldium)

Adequate Dosage

Long Term Therapy

INITIAL DOSAGE

3 Gm. four times daily
until disease quiescent

MAINTENANCE DOSAGE

1 Gm. four times daily
given intermittently once to
two years

SUPPORTIVE MEASURES

ANTIPOLEMICES

Quaternary Amines

ANTIBIOTICS

Penicillin
Streptomycin
Broad Spectrum

BLOOD AND ELECTROLYTES

Transfusions
Potassium, Sodium, Calcium
Chloride Bicarbonate

SEDATIVES AND NARCOTICS

Barbiturates
Fluorine Opium

HORMONES

Cortisone
ACTH
Testosterone

TREATMENT

COMPLICATED DISEASE

COMPLICATION	TYPE OF THERAPY	COMPLICATION	TYPE OF TREATMENT
ANEMIA	Whole Blood Transfusion	HYPOKALEMIA	Antacids Antacid Soda
DERMATITIS	Antibiotics	Thrombotic stroke	Embolism
Pyoderma	Antibiotics	Stroke	Monoclonal antibody Intravenous infusion of protein extracted
Candida	Antibiotics		
Erythema Nodosum	Steroids	TRACHEA	Anticancer Enzyme Intravenous infusion protein extracted
Erythema Multiforme	Steroids		
ASTHMA	Physiotherapy Salicylates Steroids	FISTULAE	
HEPATIC INSUFFICIENCY	High Carbohydrate Diet Vitamins B ₁₂ Lipotropic Agents	In Am	Anticancer Enzyme Intravenous infusion protein extracted
RENAL INSUFFICIENCY	Low Protein Diet	Internal	Physiotherapy Intravenous infusion
CONADAL INSUFFICIENCY	Estrogen Androgen	PERIPHERAL ANGIOGENESIS	Anticancer Intravenous infusion

COMPLICATION	TYPE OF THERAPY	COMPLICATION	TYPE OF TREATMENT
PERIPHERAL NEURITIS	Vitamin B ₁₂	HYPOKALEMIA	Vit E, Vit B ₁₂ Intravenous infusion
NUTRITIONAL EDEMA	Whole Blood Transfusion Protein Supplement	PERFORATION	Anticancer Intravenous infusion Intravenous infusion Intravenous infusion
EMPHYSEMA	Steroids	STRUCTURE	
ELECTROLYTE IMBALANCE	Electrolytes	And	Anticancer
MYOCARDITIS	Antibiotics Steroids	Cancer	Anticancer Intravenous infusion Intravenous infusion
TRACHEOPNEUMONITIS	Chemotherapy Sedative Antibiotics Sympathomimetic Shock Anticoagulants	POLYPS	Anticancer Intravenous infusion Intravenous infusion
PULMONARY COLIC	Whole Blood Transfusion Antibiotics Steroids Electrolytes Chemotherapy and Colic	CANCER	Anticancer Intravenous infusion Intravenous infusion
		EXTRACTABLE INTRACRANIAL	Anticancer Intravenous infusion

**The Use of Reserpine in Gastroenterology:
Its Effect upon Gastric Secretion.**

J. ALFRED RIDER, JOHN O. GIBBS, JOYCE SWADDER, LOURDES F. AGOAGLI, MAUREEN MEISLE, DEAN W. FRAZIER, EDWARD H. ABRAVIA, and JEAN DEROD, University of California Medical Center, San Francisco.

Parenterally given reserpine in doses of 0.50 to 2.5 mg. usually but not always produced marked increases in free acidity and volume of human gastric juice. This effect was not blocked by an effective anticholinergic agent methoctipramine. But when 0.25 mg. of reserpine was given, or in those cases in which the rise in gastric acidity was not striking, definite blocking effect from methoctipramine could be observed. One milligram of reserpine was given orally daily to 30 patients for periods of 7 to 300 days without any consistent effect being produced on the basal gastric secretions. Clinically approximately 70% of a large group of patients with diverse chronic gastrointestinal diseases benefited from orally given reserpine therapy. In some cases it was the only treatment used, in others, reserpine was added when other methods of therapy were only partly successful. Approximately 10% of the patients so treated experienced the usual side-effects, which were rarely of sufficient severity to warrant discontinuing use of the drug.

P type of the Large Intestine: Pathology and Histogenesis.

ANTONIO VALDES-DAPENA and WILLIAM J. BRIDGEMAN, Graduate Hospital, University of Pennsylvania School of Medicine, and ALICE A. VALDES-DAPENA, Woman's Medical College, Philadelphia.

Color transparencies, gross and microscopic, show the development of adenomatous polyps and villous papillomas and the transition to carcinoma. Diagrams, based on cancer lucida drawings, illustrate early stages of polyps.

Freeze Esophagitis.

GORDON McHARDY, ROBERT McHARDY, CLAUDE CHAPMAN, and IRBY J. HURST, Brown-McHardy Clinic, Lousil as State University School of Medicine, New Orleans.

The exhibit shows an incidence study based on the change since esophagoscopy has been routine diagnostic adjunct. It includes etiological considerations with depiction of seven cancer diagnostic features, showing an endoscopic study, the changes of cancer changes and specific mucosal patterns together with medical and surgical therapy and depictions of the histogenesis of each.

Intralumen Pressures from Upper Gastrointestinal Tract Measurement and Significance.

E. C. TEXTER JR., H. C. MOELLER, H. W. SMITH, J. H. SYCKLEY and C. J. BARBORA, Northwestern University Medical School, Chicago.

The exhibit demonstrates (1) the technique used for measuring intraluminal pressures, (2) the normal and abnormal findings in the esophagus, (3) the normal and abnormal findings of the stomach and duodenum, and (4) summary of the findings. The exhibit is based on approximately 110 pressure studies of normal subjects, and patients with cardiospasm, hiatal hernia, and gastric and duodenal ulcer.

Esophageal Manometry: Dynamics of Deglutition in Health and Disease.

C. F. CODE, A. M. OLSEN, F. E. DONOGHUE, H. A. ANDERSON, B. CRANER, F. L. FYKE JR., and A. H. BULBULIAN, Mayo Clinic Rochester, Minn.

A miniature electromagnetic transducer was placed within the lumen of the esophagus and also an open tip, water-filled tube system connected to manometer. Permeable records were obtained by use of electrometers and photolaryograph. Fluctuations in intraluminal pressure in various parts of the esophagus are recorded at rest and during deglutition in healthy persons and in patients with various esophageal disorders. Furthermore, by use of two or three such pressure-detecting devices in series at selected intervals, both the esophageal, intraluminal pressure were obtained that define the sequence of events during swallow. This exhibit presents (1) the method of recording esophageal motility, (2) recordings obtained from the healthy esophagus, (3) patterns found to be characteristic of cardiospasm, scleroderma, and diffuse spasm; (4) preliminary observations in other esophageal disorders; and (5) summary of the value of this technique in the diagnosis of esophageal disease.

Recent Experimental and Clinical Experiences with Antacid Therapy in Peptic Ulcer.

LEONIDAS H. BERRY, JONAS ADONAVICIUS, ROBERT SCHOOB and JUANITA PURMILL, Chicago.

The exhibit shows clinical and laboratory experiences. Its esophageal, duodenal, and gastric pH and free acid curves indicate the neutralizing value of the chemical in cases of gastric, duodenal, and gastrojejunal ulcer and hypertrophic gastritis, while curves of control group show neutralization in patients without gastrointestinal disease. Acid-antacid relationships are shown in terms of values determined with an electric pH meter. Correlation of pH, pH, pH, pH, and pH variables and clinical course of the disease includes data on treatment over period of 1 to 3 years. Further correlation studies were made of antacid consumption and repeated follow-up by 17 and gastroscopy to follow the course of healing, especially in gastric ulcer.

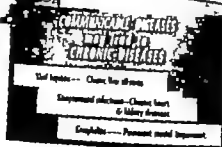
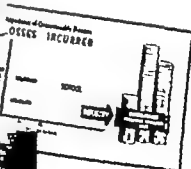
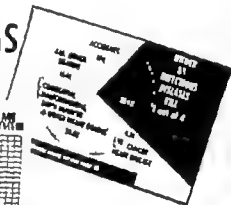
Laboratory Techniques in the Diagnosis of Communicable Diseases.

R. B. HOGAN, H. M. BROOKE, G. R. COOPER, D. S. MARTIN, and M. SCHAEFFER, Communicable Disease Center, Public Health Service, U. S. Department of Health, Education, and Welfare, Atlanta, Ga.

Newly developed diagnostic techniques, or current methods employed, are presented and evaluated for selected infectious diseases, including those in which abnormal immune responses are of particular clinical interest. Data is of selected procedures and experiences in their diagnostic applications are presented for diphtheria, leptospirosis, *E. coli* infections, toxoplasmosis, trichinellosis, mycotic infections, encephalitis, poliomyelitis, rabies, hepatitis, and diseases with abnormal protein and cellular responses.

COMMUNICABLE DISEASES

IMPORTANCE and PROBLEMS

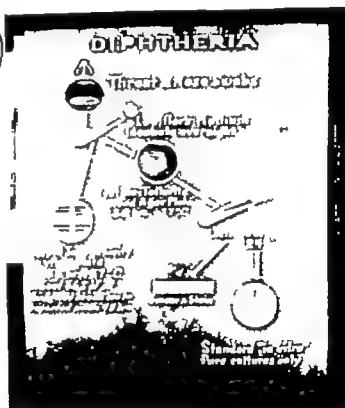


BACTERIA

Bacterial infections continue to be important in the practice of medicine. Antibiotic therapy has reduced the case fatality rates in most bacterial diseases but the number of infections caused by antibiotic resistant organisms is increasing. Bacteria, formerly considered unimportant are producing infections following antibiotic induced alterations of the normal bacterial flora. Bacterial infections may no longer present typical clinical pictures and the indiscriminate use of antibiotic therapy in early life may interfere with the development of natural immunity. Accurate identification of the particular bacterium causing an infection is essential in good clinical and epidemiologic practice.



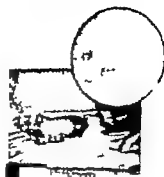
Diphtheria may be unsuspected clinically. Identification of virulent *C. diphtheriae* is essential for control.



ESCHERICHIA COLI DIARRHEA

Steel sp. - 1000
non-fish
(MacCon)
E. coli-like
antigen

7-10-68



Certain *E. coli* serotypes produce epidemics of severe diarrhea in nurseries. Serotype determination is essential for control.

LEPTOSPIROSIS

प्राप्तकर्ता : श्री. अ. अ. अ.

THE UNIVERSITY OF CHICAGO

[Signature]

2000 10 10

— *Journal of the American Medical Association*

SEROLOGIC TECHNIQS

REGISTRATION

[illegible]

10

Positive - 100%
Negative - 100%

77

Read the text and answer the questions.

1000



lethargy is uncommon in *L. pomona* and *L. canicola* infections. Leptospirosis should be suspected in patients with fever as meningeal symptoms.

PARASITES and FUNGI

Animal parasites and fungi are among the most common disease-producing agents of man. However unless clinical suspicion is high and competent laboratory work is obtained, they are frequently missed as the etiological agents of disease. Recent research has contributed significant laboratory aids to assist in the accurate diagnosis of parasitic and mycotic infections.



Laboratory confirmation is essential for a diagnosis of toxoplasmosis.

TOXOPLASMOSIS

Difficult to diagnose clinically & histologically
Microscopic identification of *Toxoplasma gondii* is often uncertain.

Tachyzoites

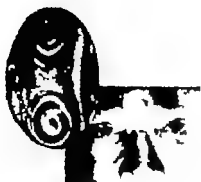
Oocysts

?

Laboratory Aids in Diagnosis of Toxoplasmosis

Agarose Gel Diffusion Test	Fluorescent Antibody Test	Serial Dilution T. or
Modified <i>T. gondii</i>	Modified <i>T. gondii</i>	Modified <i>T. gondii</i>

Schmidt - Maguire



The bentonite flocculation test for trichinosis is accurate, rapid and simple to perform.



At least 1 of every 15 people in the USSR is now infected with *TRICHINELLA SPIRALIS*.

The infection is generally unrecognized because of vague symptoms (a) *BM*.

A simple and reliable test for the laboratory diagnosis of trichinosis is...

THE MODIFIED BENTONITE FLOCCULATION TEST



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva

Trichinella spiralis larva

BM 1000

Clinical and Pathological Signs of other diseases



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva

Accurate Diagnosis Dependent upon Laboratory Tests
1. Isolation of *T. spiralis* (based on size of cysts or capsules, structure of body and if possible, internal organization and growth of propagules or nodules).



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva

2. Corroborative Evidence based on morphology, pathological signs.



Trichinella spiralis larva



Trichinella spiralis larva



Trichinella spiralis larva



Diagnosis of mycotic diseases depends upon correlating clinical findings with sound laboratory procedures.

VIRUSES and RICKETTSIAE

Current developments in laboratory procedures, especially in the improvement of tissue culture and serologic techniques, provide more precise laboratory tests for use in the differential diagnosis of viral and rickettsial diseases. Many physicians are able to obtain certain services from local laboratories and specimens for tests that exceed local facilities may be referred to central laboratories for more elaborate study.

Confirmation of the clinical diagnosis by laboratory methods is now possible for non-paralytic poliomyelitis, aseptic meningitis (due to mumps, Coxsackie, ECHO and lymphocytic choriomeningitis virus), the viral encephalitides, influenza, acute respiratory disease (due to the adenovirus group), psittacosis, rickettsial diseases, and epidemic keratoconjunctivitis. Recent studies indicate that herpes zoster, chickenpox, measles and other exanthema may be added to the list.

There remains a group of diseases (including hepatitis and common cold) for which there are at present no specific laboratory tests.



The laboratory diagnosis of viral and rickettsial diseases depends upon: (1) Good clinical and epidemiologic data, (2) Selection of appropriate specimens for virus isolation and (3) Collection of acute and convalescent serum specimens for antibody assay.



1. 1 year old boy
2. 2 year old boy
3. 3 year old boy



The differential diagnosis of infections of the CNS is based on clinical data, augmented by isolation of virus from feces and/or spinal fluid and the demonstration of a rise in specific antibody titer



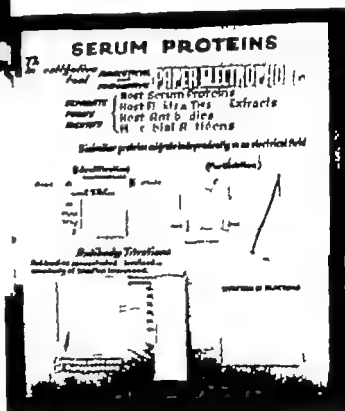
Throat washings or swabs for virus isolation and body studies in patients and convalescent serum are used to determine if influenza or other types of acute exanthematous disease

HOST REACTIONS

The clinical course and outcome of any infectious disease depends upon the reaction of the individual patient to each particular infectious agent. Host reactions are both specific (immunologic) and non-specific (metabolic). Host reactions are measurable and are most useful in the diagnosis, in the estimation of prognosis and in the management of a patient with an infectious disease. Detection of any alterations in proteins and other components of serum, exudates and body fluids is important as is the observation of metabolic changes occurring within blood cells and within cells obtained from other tissues such as the lymph nodes.



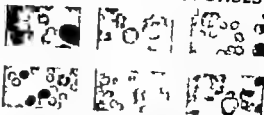
Changes in serum proteins occur in all infectious diseases. Such changes usually are non-specific especially if the blood is taken early in the disease.





Metabolic reactions within blood cells are revealed by histochemical stains and frequently are of value in differential diagnosis

BLOOD CELLULAR RESPONSES



HISTOCHEMICAL STAINS AID IN DIAGNOSIS



Reactive "foamy" cells as seen in reactive lymphoid tissue



Periodic acid-Schiff stain of differential stain the typical lymphocytes of adenoid tissue are revealed by revealing red granules in cytoplasm of the 1 of monocytes.



CONGENITAL

Normal Screen

ACQUIRED

Primary lymphoma
Secondary lymphoma
Lymphoproliferative disorders
Lymphoproliferative disorders
Lymphoproliferative disorders

CLINICAL HISTORY / PHYSICAL EXAMINATION

Hypogammaglobulinemia



Recurrent infections
Respiratory tract infections
Lymphoproliferative disorders
Lymphoproliferative disorders
Lymphoproliferative disorders



Recurrent infections (case 2)
Respiratory tract infections
Lymphoproliferative disorders
Lymphoproliferative disorders
Lymphoproliferative disorders



Determination of the types of gamma globulin is just as important in evaluating host resistance as is the measurement of their quantity

DEPENDABLE LABORATORY TECHNICS in COMMUNICABLE DISEASES are needed not only in DIAGNOSIS

of common and rare infections but also for

RAPID IDENTIFICATION in BIOLOGICAL WARFARE DEFENSE and CATASTROPHES



Exhibit from

U.S. DEPARTMENT of
HEALTH, EDUCATION and WELFARE
Public Health Service
Communicable Disease Center
Atlanta, Georgia



Early Detection of Glaucoma.

FRANKLIN M. FOOTY, WILLIS S. KNIGHTON and VIRGINIA SMITH & BOYCE, National Society for the Prevention of Blindness, New York.

The exhibit presents a description of various tests and signs that will help the family doctor to recognize early glaucoma the cause of 12% of all blindness of much more visual disability. A demonstration of tonometry and visual field screening will also be included.

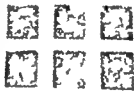
Glaucoma, a prevalent eye disease among older people is a hardening of the eyeball due to increased pressure. Much of the loss of vision from this disease could be prevented through early recognition. The purpose of the exhibit is to encourage the family doctor to check for signs of glaucoma through use of the ophthalmoscope and tonometer during routine physical examinations of persons forty years of age and over. A comparison of the symptoms of the two types of primary glaucoma, closed angle (formerly called acute congestive) and chronic simple is made. Tonometry using a standard Schitz tonometer and checking visual fields on the Harrington Flocks Multiple Pattern Visual Field Screener are done on physicians interested in having the tests.

SLAUCOMA

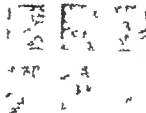


Fields of vision are checked on the Harrington Flocks field screener

1 OF GLAUCOMA



1 OF



1 OF



SIMPLE GLAUCOMA

Early

Symptoms - vague or absent
Possible indefinite eye discomfort
Central vision usually good
Side vision defects not noticed

Signs - indefinite
Tension increased at times
24 hour study necessary
Tonography equivocal
Cupping of nerve-head questionable
Field loss small or indefinite
Provocative tests equivocal

Treatment
Miotics
Repeated tension and field studies
No surgery

Symptoms
Central vision

Side vision
not

Signs

Tension normal
Tonography equivocal
Cupping of nerve-head
Field loss - may be small
Provocative tests usually positive

Treatment

Miotics to improve aqueous outflow
Other medication to reduce aqueous formation
Surgery only if necessary to prevent progressive field loss

THERE ARE TWO TYPES OF PRIMARY GLAUCOMA

***CLOSED ANGLE GLAUCOMA**
(formerly Acute Congestive)

Acute Attacks
Red painful eyes
Blurred vision
High tension

Diagnosis usually obvious

Patient consults doctor immediately

Requires earliest possible surgery

***SIMPLE GLAUCOMA**

Insidious Onset
No pain or redness
Vision essentially normal
Tension irregular never extreme

Diagnosis difficult in early cases

Patient not aware of early manifestations

Surgery deferred as long as possible

Requires careful continued medical management

*Terms adopted by the Symposium on Glaucoma sponsored by the Council for International Organizations of Medical Sciences Canada Sept 1954

tion Facts,

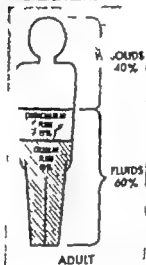
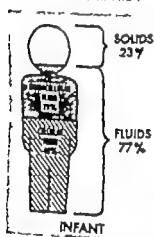
J SWANEY and MARTHA WESSEY,
Evansville, Ind.

Similar analogies, and periodically changed case
ation facts, clinical diagnosis, and therapy of
the exhibit describes body fluid types, salts of
homeostasis, and cellular physiology. It pre-
cise classification and physiological nonstruc-
tural outlines the body homeostatic mechanisms.
tailored therapy is covered briefly

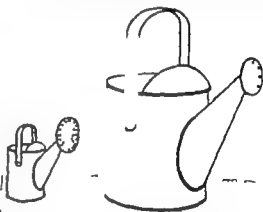
BODY COMPOSITION

THE INCANALOGY

FLUID AND SOLID COMPONENTS
OF BODY WEIGHT IN THE INFANT



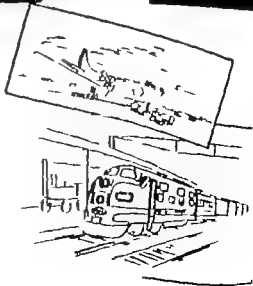
THE COMPONENTS
OF WEIGHT IN THE BODY



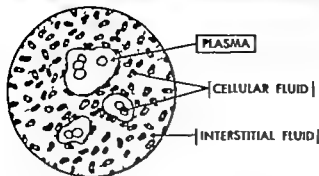
II UNITS OF MEASURE

THE MILLIEQUIVALENT REPRESENTS
THE HORSEPOWER OF THE ELECTROLYTE

THE UNIT OF MEASURE OF ELECTROLYTES
IS THE MILLIEQUIVALENT WHICH EXPRESSES
CHEMICAL COMBINING POWER EXPRESSION
OF ELECTROLYTES IN MILLIGRAMS IS A WEIGHT
MEASUREMENT AND IS UNREALISTIC ONE
WOULD NOT COMPARE THE POWER OF AN AIR
PLANE TO THAT OF A LOCOMOTIVE ON THE
BASIS OF WEIGHT SINCE HORSEPOWER NOT
POUNDS MEASURES POWER THE AIRPLANE
WEIGHS 45 000 POUNDS AND DEVELOPS 4800 h
THE LOCOMOTIVE WEIGHS 230 000 POUNDS BUT
DEVELOPS ONLY 1300 h THE UNIT OF
MEASURE OF HORSEPOWER IS A HORSE THE
UNIT OF MEASURE OF THE MILLIEQUIVALENT
IS A CHEMICAL COMBINING POWER OF 1/1000
OF A GRAM OF HYDROGEN

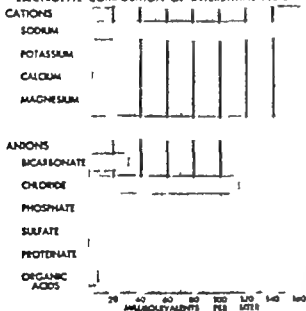


III THE BODY FLUIDS: TYPES AND COMPOSITION

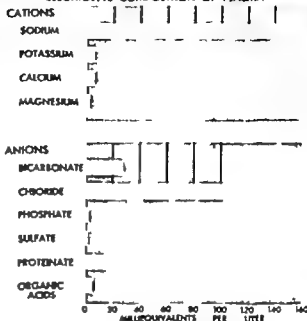


BODY FLUIDS ARE CONTAINED IN TWO GREAT RESERVOIRS: THE EXTRACELLULAR AND CELLULAR. EXTRACELLULAR FLUID INCLUDES PLASMA AND INTERSTITIAL FLUID. CELLULAR FLUID IS NOT SUBDIVIDED. IT INCLUDES THE FLUID OF ALL THE CELLS OF THE BODY.

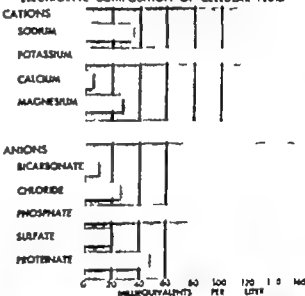
ELECTROLYTE COMPOSITION OF INTERSTITIAL FLUID



ELECTROLYTE COMPOSITION OF PLASMA



ELECTROLYTE COMPOSITION OF CELLULAR FLUID

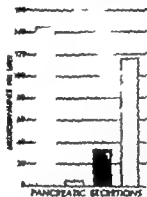
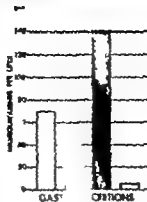
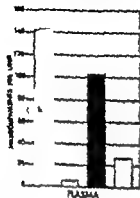


THE ICEBERG ANALOGY OF EXTRACELLULAR AND CELLULAR FLUID

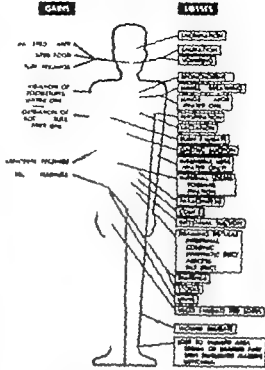


IV GAINES AND LOSSES OF BODY FLUIDS

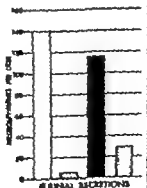
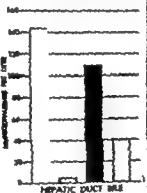
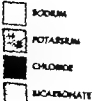
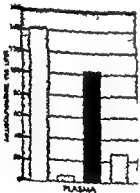
ELECTROLYTE COMPOSITION OF BODY SECRETIONS COMPARED TO PLASMA



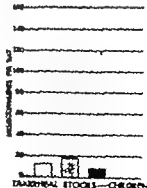
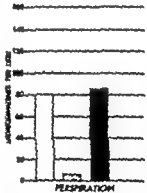
GAINS AND LOSSES OF BODY FLUIDS



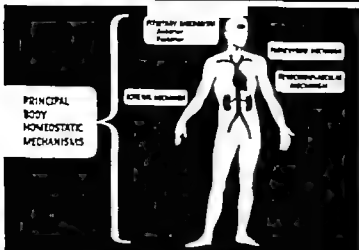
ELECTROLYTE COMPOSITION OF BODY SECRETIONS COMPARED TO PLASMA



ELECTROLYTE COMPOSITION OF BODY SECRETIONS COMPARED TO PLASMA



V BODY AUTOMATION



HOUSE OF RAPP

IMPAIRMENT OF RENAL MECHANISM

I. ISCHEMIA
C. E. GLOMERULONEPHROSIS
C. CHRONIC GLOMERULONEPHROSIS
M. L. TUBERCULOSIS OF
KIDNEY
EPIDEMIOLOGY
D. E. O. RENAL
D. O. E. T. B. SE
S. RGE

IMPAIRMENT OF PARATHYROID MECHANISM

I. DEFECT OF PRODUCTION OF PTH
OR DEFECT OF RELEASE
S. G. L. E. O. L.
B. M. R. O. T. ROIDS
II. DEFECT OF G. S. TO EFFECT
T. O. D. O. E.
III. DEFECT OF O. O. ROD
O. O. E.
M. E. T. O. I. S.
B. O. R. O. T. O. D. G. L. D.

IMPAIRMENT OF ADRENAL MECHANISM

I. INSUFFICIENCY OF ADRENAL CORTICAL
DISORDER
B. CO. G. E. T. L. B. E. L. TYPICAL
C. DIMINISHED PRODUCTION OF ACTH
II. HYPERACTIVITY OF THE ADRENAL CORTICAL
OVERPRODUCTION OF ACTH
B. O. H. D. E. L. CORTE
E. P. Y. LOGSTEROID
D. O. E. D. O. G. E. IT. ADRENAL CORTICAL
OR O. E. S.

IMPAIRMENT OF ANTERIOR PITUITARY MECHANISM

I. OVERPRODUCTION OF PITUITARY HORMONE
CAUSING SYNDROME OF
CROCHLEY
II. UNDERPRODUCTION OF PITUITARY HORMONE
P. Y. G. I. T. U. R. I. S.
B. S. M. O. D. S. D. S. E.
C. S. D. D. E. D. L. O. C. T. H.

IMPAIRMENT OF POSTERIOR
DIABETES INSIPIDUS
EMOTIONAL STRESS
EXCESSIVE DRINKING OF WATER

PITUITARY MECHANISM
INGESTION OF ALCOHOL
FOLLOWING EXPOSURE TO COLD
MORPHINE ADMINISTRATION

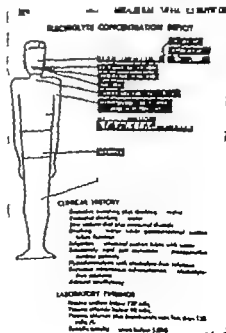
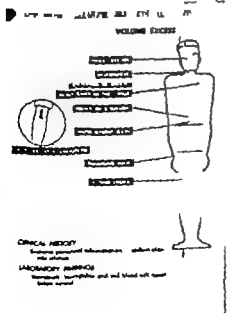
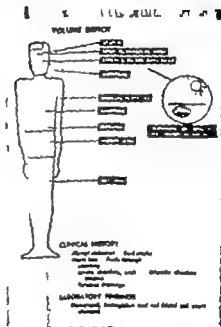
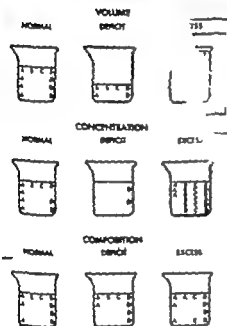
CLASSIFICATION OF BODY FLUID IMBALANCES

A SYSTEMATIC CLASSIFICATION (ADAPTED FROM MOER) DIVIDES BODY FLUID IMBALANCES INTO THREE PRINCIPAL TYPES

1

- CHANGES IN PROPERTIES OF EXTRACELLULAR FLUID CHANGES IN POSITION OF EXTRACELLULAR FLUID CHANGES IN VOLUME OF EXTRACELLULAR FLUID

1. CHANGES IN PROPERTIES OF EXTRACELLULAR FLUID



● 2010年10月1日起，凡在中华人民共和国境内销售货物或者提供加工、修理修配劳务以及进口货物的单位和个人，均应按照《中华人民共和国增值税暂行条例》及实施细则缴纳增值税。



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[illegible]

LAWSON "CITY FARMER"

THE

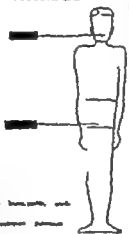
POTASSIUM DEFICIENCY



11. 4. 1971

1. *Thymus* *sp.* *sp.* *sp.*
 2. *Thymus* *sp.* *sp.* *sp.*
 3. *Thymus* *sp.* *sp.* *sp.*
 4. *Thymus* *sp.* *sp.* *sp.*
 5. *Thymus* *sp.* *sp.* *sp.*
 6. *Thymus* *sp.* *sp.* *sp.*
 7. *Thymus* *sp.* *sp.* *sp.*
 8. *Thymus* *sp.* *sp.* *sp.*
 9. *Thymus* *sp.* *sp.* *sp.*
 10. *Thymus* *sp.* *sp.* *sp.*
 11. *Thymus* *sp.* *sp.* *sp.*
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POTASSIUM (continued)



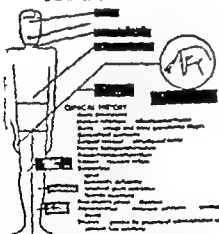
CLINICAL IMPORTANCE

The following information is being provided for your information only. It is not intended to be used for any other purpose.

LABORATORY METHOD

THE UNIVERSITY OF CHICAGO

EACHING IMPACT



CRIMINAL HISTORY

[illegible]

LABORATORY PROCEDURES

[illegible]

Callisto **1979**



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1. **Identifikasi Masalah**
 2. **Pengumpulan Data**
 3. **Penyusunan Laporan**
 4. **Penyimpulan**

SAFETY DATA SHEET

My records reflected existence of below
 property interest without clearly identifying an
 interest as beneficiary and
 I have written that above 1/2 only.

I ACIVITY OF LIMIT OF NO HONS
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 II C@ H@ H@ H@ H@ H@
 RCE T H@
 III @ LL T E H@ T C@ L LA L H@ H@
 E F F T @ -CL
 IV H E EXES H@ H@ H@ H@ H@ C H@
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CLINICAL HISTORY
 Unemployment (duration)
 Exposure assessment
 CDD
 Smoking
 Drinking water (duration)
 Residence time
 Residence exposure
 Residence exposure

Ինքնուրույն գործունեություն
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 Ինքնուրույն գործունեություն չունի

1. The first step is to identify the problem.
 2. The second step is to define the problem.
 3. The third step is to analyze the problem.
 4. The fourth step is to develop a solution.
 5. The fifth step is to implement the solution.
 6. The sixth step is to evaluate the solution.
 7. The seventh step is to monitor the solution.
 8. The eighth step is to maintain the solution.
 9. The ninth step is to improve the solution.
 10. The tenth step is to document the solution.

CLINICAL HISTORY

- Sex of cells or preinvasive disease
- High histological classification
- Pattern of invasion
- Genetic factors
- Epidemiology
- Immunology
- Molecular biology
- Pathogenesis
- Prognosis
- Treatment
- Prevention

low-level abstract or polymorphic enough
high level abstract abstraction
system abstraction
program analysis
operational semantics
semantics-preserving compiler proofing
abstract solver
concretization, etc.
with refinement
Problems: non-terminating algorithms, subtle bugs, errors,
few provers
Initial design: simple, clean

[illegible]

ELECTROLYTE CONCENTRATION CHANGES

POTASSIUM

CARBONIC ACID DEFICIT (Respiratory Alkalosis)

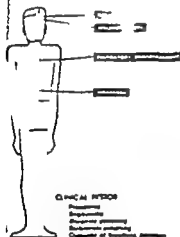


CLINICAL HISTORY

Increased rate and depth of respiration
Tingling numbness
Muscle weakness
Finger numbness
Blurred vision
Headache
Nausea and vomiting
Lethargy

LABORATORY FINDINGS
Serum pH below 7.35
Serum bicarbonate below 22 mEq/L
Serum chloride above 100 mEq/L
Serum potassium below 3.5 mEq/L

CARBONIC ACID EXCESS (Respiratory Acidosis)



CLINICAL HISTORY

Headache
Drowsiness
Blurred vision
Nausea and vomiting
Chest pain or difficulty breathing
Finger numbness and tingling
Lethargy

LABORATORY FINDINGS

Serum pH below 7.35
Serum bicarbonate above 26 mEq/L
Serum chloride below 96 mEq/L
Serum potassium above 3.5 mEq/L

EXCESS -- LOSS BY SWEAT OR URINE

Respiratory Alkalosis



Extracellular	Intracellular
Deficit	Excess

EXCESS -- LOSS BY SWEAT OR URINE

Extracellular Deficit

Intracellular Excess

Respiratory Alkalosis

Extracellular Deficit

Intracellular Excess

Respiratory Acidosis

Extracellular Deficit

Intracellular Excess

Respiratory Alkalosis

Extracellular Deficit

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Respiratory Acidosis

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Respiratory Acidosis

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Intracellular Excess

Respiratory Alkalosis

Extracellular Deficit

Intracellular Excess

Respiratory Acidosis

II CHANGES IN POSITION OR DISTRIBUTION OF EXTRACELLULAR FLUID

DISTRIBUTION

NORMAL

SHIFT

SHIFT



P -- PLASMA
IF -- INTERSTITIAL FLUID



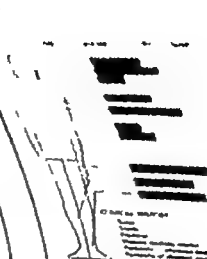
CLINICAL HISTORY

Onset
 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.
 Present phase of condition: resolving, progressive, recurrent
 Recent diet: dairy, for example, fruits, vegetables, etc.

Onset
 Compensatory phase which may follow initial onset of acute phase

LABORATORY FINDINGS

Hemoglobin, hematocrit and blood cell count decreased



CLINICAL HISTORY

Onset
 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.
 Present phase of condition: resolving, progressive, recurrent
 Recent diet: dairy, for example, fruits, vegetables, etc.
 Onset
 Compensatory phase which may follow initial onset of acute phase

LABORATORY FINDINGS

Hemoglobin, hematocrit and blood cell count decreased

III CHANGES IN NUTRITIONAL STATUS OF BODY



PROTEIN DEFICIT

Onset
 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.

Onset
 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.

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 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.

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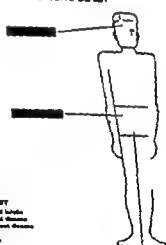
CLINICAL HISTORY

Onset
 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.
 Present phase of condition: resolving, progressive, recurrent
 Recent diet: dairy, for example, fruits, vegetables, etc.

LABORATORY FINDINGS

Hemoglobin, hematocrit and blood cell count decreased

CALORIC DEFICIT



CLINICAL HISTORY

Onset
 Associated symptoms: abdominal pain, nausea, vomiting, weight loss, fatigue, fever, etc.
 Present phase of condition: resolving, progressive, recurrent
 Recent diet: dairy, for example, fruits, vegetables, etc.

LABORATORY FINDINGS

Hemoglobin, hematocrit and blood cell count decreased

CLINICAL HISTORY
Development of tooth at birth

any words typical feelings of stress, defense, threat and stress, defense, threat

LEADS TO A LITTLE INAGUATE
MUSIC / MICHIGAN

[illegible]

Legend 1 increase in the disturbance
2 decrease in the disturbance

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DATE 08-16-2011 BY 60322 UCBAW/BJS

THIS EXHIBIT AIDED BY A GRANT FROM MCDONALDSON & COMPANY

Control of Cervical Carcinoma by General Population Screening: The Floyd County Project.

H. E. Nunnally, Beth El Hospital, N. W. York.

A five-year project on the organized screening of the female population of Floyd County, Georgia, is being presented. The organization of the project, with participation of the Floyd County Medical Society and their members, the Georgia State Health Department, and the local chapter of the American Cancer Society and other groups, is demonstrated. The various types of propaganda utilized to reach the population during the conduct of this project are presented. The techniques applied to secure

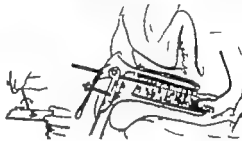
cervical specimens and their management and mailing procedure are illustrated. The organization of laboratory as a center for general-population screening is shown in detail and includes all steps from the preparation of smear to the interpretation and recommendations made to the physician of Floyd County. The system of recording data pertaining to each patient is demonstrated, with presentation of figures in regard to the number of cervical carcinomas detected on first examination and the number of cervical carcinomas found on repeat examinations in women with previously negative findings. All data are tabulated according to age groups, race, number of repeat examinations, and number of cervical carcinomas developed early for five years in relation to the number of women examined.

OFFICE PROCEDURES FOR CANCER DIAGNOSIS

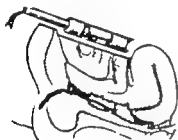
Vaginal Smear



Endocervical Smear



Cancer Detection Tampon and Automatic Preparation of Smear



Mailing of Specimens



The increasing use of Cytology in physician offices and for medical screening procedures has necessitated simplification of the method for the physician.

A new laboratory procedure permits the physician to omit fixation of smears. The smears are simply dried in air and sent to the laboratory without application of glycerin for the preservation of cells. Smears are made satisfactorily in the dry state for several weeks.

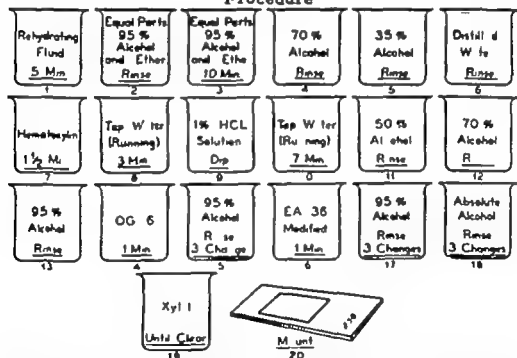
Rehydration of smears is also possible for phase contrast microscopy. The smears may be allowed to dry and may be later examined by placing a coverslip over a drop of glycerin to which rehydrating fluid and hematoxylin have been added.

Preparation of Rehydrating Fluid

1. Dissolve 0.5 cc polyoxyethyl ne Sorbitan Monolaurate (available as Tween 80 or Span) in 1,000 cc distilled water previously heated. Allow to cool before use.
2. Prepare a mixture of equal parts of 70 percent alcohol and the
3. Add 25 percent of the prepared rehydrating agent in distilled water to the other alcohol mixture.

For phase contrast microscopy of dried smears, add 5 drops of the rehydrating 70 percent alcohol solution and 5 drops of hematoxylin to 2 ounces of glycerin.

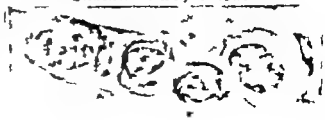
Procedure



Dry Smear Stained



Phase Microscopy of
Unstained Dry Smear



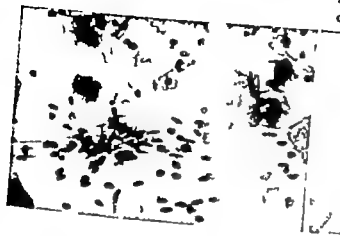
DIAGNOSTIC CRITERIA

IONS

Satisfactory endocervical smear

Unsatisfactory
smear with
cervical

cervical
of endo-
ucocytes



CELLULAR CHANGES



Atypical cells
indicative of
invasive cancer

RECOMMENDATIONS



Cone or multiple
biopsies and endo
cervical scraping



Parabasal cell
dyskaryosis indicative
of carcinoma in situ
possibly invasive
cancer



Dyskaryosis
in
intermediate
cells

Repeat
in
3 months



Dyskaryosis
in
superficial
cells

Repeat
in
6 months



Makro
karyosis

Repeat
in
12 months

BIOPSY PROCEDURES

Schubert Punch



Gellhorn Punch



Cold Knife Cone Biopsy



Endocervical Scraping



ENDOMETRIAL BIOPSY

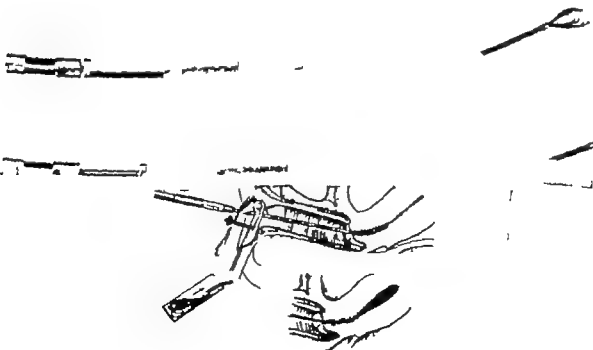


Killian antrum cannula (small size)



Endometrial aspiration

Endometrial Abrasion with Retractable Nylon Fibers



Routine endocervical smears regardless of symptoms

***CYTOLOGY NEGATIVE**

No symptoms or visible lesion in cervix

Repeat Smear Annually

***CYTOLOGY NEGATIVE**

With Symptoms Suggestive of Carcinoma of the Cervix

Lesion Visible

Repeat smear and take biopsy

Biopsy and smear negative

Exclude endometrial cancer polyps hormonal causes or others and repeat smears at 6 month intervals

Lesion not visible

Repeat smear

Smear negative

Smear positive

Cold knife cone biopsy

***CYTOLOGY POSITIVE**

Lesion Visible

Single or multiple punch biopsies

Biopsy Negative

Lesion not visible

Repeat smear and take cold knife cone biopsy

Repeat smear

Smear Negative

Repeat smear in 3 months

Smear Positive

Repeat biopsy

Biopsy Positive

TREAT CANCER

This exhibit prepared in cooperation with the Division of Cancer Control and Research, New York City Department of Health

REPORTING SYSTEM

CYTOLOGY REPORT

Slide No. _____ Name _____ Date _____
 Type of Specimen _____ Address _____ Age _____
 Doctor _____ Hosp. or Office No. _____ Race _____
 Chief Complaint _____
 First day of LMP _____
 Duration and regularity _____
 Treatment, Past, esp. hormones, radiation therapy _____
 Endometrial (pap. Cervix) _____
 Prev. Cyt. and Path. reports _____

A HORMONAL EVALUATION

Suggestive of (1) Indistinct of (2) Comparable to (3) Post ovulatory phase (4)
 Follicular phase (5) Early (6) Late (7) Non ovulatory cycle (8)
 Luteal phase (9) No evidence of ovulation prior to taking of smear (10)
 Estrogen deficiency (11) Slight (12) Moderate (13) Marked (14)
 Apparently adequate estrogen activity (15) Increased estrogen activity (16)
 Possibly previous non ovulatory cycle (17)
 Normal hormone levels during pregnancy (18)
 Progesterone deficiency (19) Slight (20) Moderate (21) Marked (22) Impending abortion (23)
 May normally occur at 3rd month of pregnancy (24)
 Non specific smear due to excessive cytolytic (25) If hormonal evaluation desired, repeat following alkaline douches (26)
 Post partum During lactation (26) Not lactating (27) Normal (28) Abnormal (29)
 Re-established estrogenic function () Slight (30) Moderate (31) Marked (32)
 Continued estrogenic stimulation unopposed by episodes of progesterone activity (33)
 Protracted estrogen activity possibly slightly decreased (34)

B BACTERIAL CONTENT

Trichomonas infection (1) Organisms not identified (2) Myella infection (3)
 Leptothrix fungus infection (4) Cocci in bacteria (5) Dendritic bacilli (7) Cytolytic (9)
 May be responsible for cellular changes in presence of normal hormone levels (8)

C CELLULAR CONTENT AND MENTION CHANGES

Corneal cells (1) Endometrial cells (2) Slight cellular change (11)
 Superficial cells (3) Hyperkeratotic cells (4) Sugg. of (7) Hyperactivity (8)
 Intermediate cells (5) Microcytes (10) Ind. of (11) Increased proliferation (9)
 Parabasal cells (12) Leucocytes (20) Epithelial dysplasia (14)
 Endocervical cells (13) Red Blood Cells (21) Slight (16) Moderate (17)
 NO CANCER CELLS FOUND (18) NO ENDOCERVICAL MATERIAL PRESENT (22)
 Possibly due to inflammation or Squamous metaplasia (23)
 Polyp (24) Adenocarcinoma hyperplasia (25)

D ATYPICAL CELLULAR CHANGES

Nuclear alterations in cells: Superficial (1) Intermediate (2) Parabasal (3) Endometrial (4) Endocervical (5)
 Possibly associated with (6) suggestive of (7) Indistinct of (8)
 Marked epithelial dysplasia (9) Early neoplasia cannot be ruled out (10)
 Carcinoma in situ (11) Invasion cannot be ruled out (12) Invasive carcinoma (13)
 Adenocarcinoma (14) Endometrial carcinoma (15) good (16)
 Radiation changes (17) Squamous response SR (18) Radiation response (19) adequate (20)
 poor (21)

E RECOMMENDATIONS

Report cytological examinations frequently (1) Immediately (2)
 Monthly (3) 3 (4) 6 (5) 12 (6) Following trichomonas therapy (7)
 Multiple biopsies (8) Endocervical scrapings (9) Endometrial biopsy (10)
 Endometrial smear by aspiration or invasive action (11)

OTHER FINDINGS

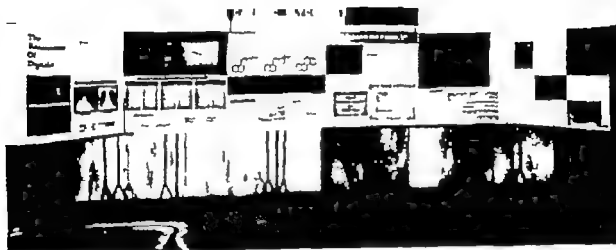
Signed

Dr. H. E. Hays

**Cardiac Glycosides: Recent Advances and Their
Application in Therapeutics.**

ARTHUR C. DeGRAFF, LEONARD B. GUINER, and LAWRENCE
KRYER, New York University and Bellevue Medical
Center New York, and ARTHUR BERNSTEIN Newark,
N. J.

A discussion of the indications for digitalization and the basic principles involved is presented in detail. Manifestations of digitalis toxicity are outlined, with emphasis upon certain early common signs and indications of overdosage including progressive heart failure as signs of toxicity. Presentation of certain neurological manifestations of digitalis toxicity are made. The advantages of different cardiac glycosides are reviewed and their role in therapeutics outlined. Several new cardiac glycosides are discussed and presented in detail.



The Renaissance of Digitalis

The importance of digitalis as a primary agent in the therapy of congestive heart failure has been temporarily eclipsed by the recent emphasis on extra-cardiac agents, whose actions are primarily renal. It is the purpose of this exhibit to re-establish the primacy of digitalis in the treatment of the failing heart muscle and it is our premise that digitalis or one of the appropriate glycosides should be the initial therapeutic agent.

DIGITALIS VERSUS DIURETICS (IN CONGESTIVE HEART FAILURE)

	DIGITALIS	DIURETICS
1. Site of Action	Heart (Major) and Kidney (Minor)	Kidney
2. Cardiac Output	Directly increased.	No primary effect.
3. Venous Pressure	Promptly decreased.	Secondarily decreased
4. Atricular Fibrillation	Slows ventricular rate; protects ventricle	No effect.
5. Mechanical efficiency of Myocardium	Increased.	No effect.
6. Potassium	Re-establishes intracellular potassium equilibrium.	Secondary cellular effects.

The following roentgenograms show reduction in heart size and clearing of congestive failure with a digitalis preparation.

REDUCTION OF HEART SIZE WITH DIGITALIZATION

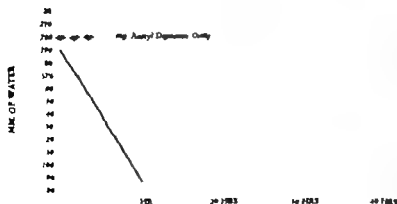


BEFORE
DIGITALIS
(CEDILANID D
WAS THE
GLYCOSIDE
USED)



AFTER
DIGITALIS
(CEDILANID D
WAS THE
GLYCOSIDE
USED)

Digitalis Effect on Venous Pressure



The direct myocardial effect manifests itself by the prompt reduction in venous pressure shown before which further makes for the clearing of congestive failure with its associated reduction in heart size.

While it is recognized that diuretics, low salt and low alk diets may achieve similar results, the action of digitalis is more specific and prompt.

Digitalis or one of the various glycosides should occupy the central therapeutic approach in the treatment of congestive heart failure.

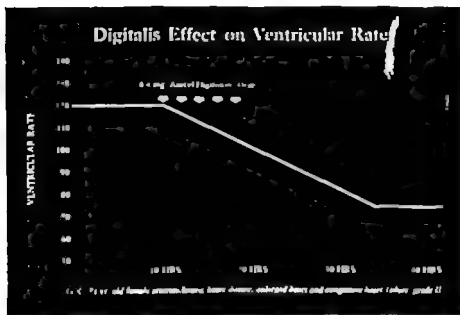
INDICATIONS

A. The primary use for digitalis products is in the treatment of congestive heart failure of any degree, varying from the mildest reduction in cardiac reserve to severe heart failure, regardless of age, etiology of heart disease or the type of rhythm. The presence of active rheumatic carditis or myocardial infarction is not a contra-indication to the administration of the various digitalis preparations.

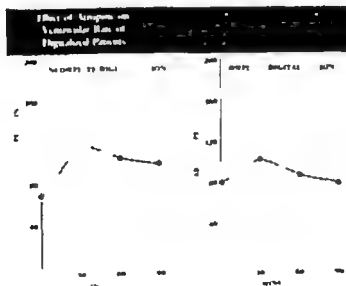
The action of digitalis in myocardial failure is primarily muscular one by virtue of its effect in decreasing the diastolic fiber length through increased spiralling of the actomyosin fibrils and by causing an egress of intracellular potassium, permitting actin and myosin to combine.

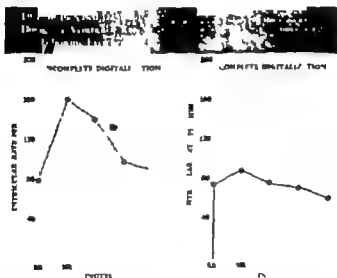
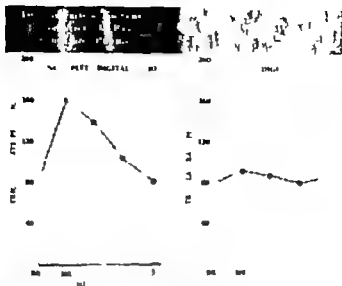
B. Other indications

1. Control of ventricular rate in auricular fibrillation.
2. Treatment of supraventricular tachycardia and other arrhythmias.



DIGITALIS EFFECT ON VENTRICULAR RATE IN AURICULAR FIBRILLATION





In the arrhythmias, the action of digitalis is mediated through both vagotonic and muscarinic mechanisms. This dichotomy is demonstrated in Fig. 3 by the slowing of the ventricular rate in sinusoidal fibrillation and in Fig. 4 where atropinization and exercise separate the early vagal action from the still later muscular action.

Digitalis decreases the output in the non failing heart and, conversely increases it in myocardial insufficiency

CONTRAINDICATIONS

The only true contraindication is digitalis toxicity itself.

- Relative contraindications include
 1. Routine preoperative use in the aged.
 2. High output failure without myocardial insufficiency (anemia, thyrotoxicosis, arteriovenous aneurysm, Paget's Disease, Beri Beri, etc.)

THE CARDIAC GLYCOSIDES

In digitalis, the cardiac glycoside is the active principle; however cardiac glycosides have been obtained from many substances other than digitalis plants, e.g. arrow poisons, rat poisons, beetroot, nutmeg, periwinkle and convallaria.

Characteristics of the Cardiac Glycosides

	WOLFE LIPID DIGITALIS	DIGITALEXIN	ACTIV-3 DIGITALEXIN	CAJ 11N	DIGOXIN	LANATONIDE C	DISACETYL LANATONIDE C	OLANABIN
Onset of action-1 hr		None with vehicle		Made on 1-2 hours	3 mg 1-2 hours		5 Minutes	5 Minutes
Time of onset-2 hours	None 2 hours	None 2 hours	Made on 30 hours	Made on 30-60 hours	Made on 1-2 hours	Made on 1-2 hours		
Percentage of Therapeutic Effect	15% day	1-20 days	30 days	2-60 days	1-3 days	1-3 days	2-3 days	12-24 hours
Time of effect (clinical onset)	1-2 weeks (1-2 weeks)	None depression	None depression	None depression	None depression	None depression	None depression	None depression
Duration of Time Effect	10 days	days	1-3 days	1-2 days	1-3 days	1-2 days	6-12 hours	6-12 hours
average whole body Chl Fluor at 2-100	2.0 grams	2.2 mg	2.2 mg	6.0 mg	1-5 mg	1.0-10.0 mg		
Maximum whole body 1-10		4 mg			1.0 mg		0.5 mg	0.5 mg
Maximum whole body 1-10		mg			1.0 mg		0 mg	
Maximum Ther-Fluor	1 to 2 grams	11.4-2 mg	11.4- mg	11.1 mg	0.4-1.1 mg	0.1-1.5 mg average 1.0 mg	No studies	N 1-2

Effect of Carbohydrate Metabolism Upon Digitalis Action

Ventricular arrhythmias may be excited or aggravated by oral or intravenous carbohydrate which secondarily produces fall in serum potassium (similar to the hypokalemia observed with mercurial diuresis, gastrointestinal loss, adrenal steroid therapy, etc.)

TOXICITY

1. By and large all digitalis preparations, which include all crude extracts, mixtures of extracts and purified glycosides, are similar in their subjective and objective manifestations of intoxication. However there is some recent evidence accumulating that digitoxin exhibits greater selective toxic action on the myocardium whereas digoxin and acetyl digitoxin demonstrate more extra-cardiac manifestations.

2. In general, the duration of toxicity once achieved roughly tends to follow the rate of dissipation of effect of the particular preparation.

3. With equivalent dosages of all digitalis products,

any one patient will tend to exhibit similar outward manifestations.

4. Any particular subjective symptom or objective sign of intoxication may occur as the only manifestation of overdose or may be combined with any of the other following symptoms and signs and may occur early or late in the toxic range.

5. We must caution specifically against thinking that anorexia and nausea are early signs of overdose for they may never occur; dangerous or fatal ventricular arrhythmias may present themselves without any prior warning and in the absence of any subjective symptoms with any digitalis preparation.

SIGNS AND SYMPTOMS

I. CARDIAC

1. Alterations in irritability
 - a. Tachycardia, from any cause
 - b. Premature systoles from any focus, occurring singly or in runs of coupling.
 - c. Change in rhythm: any form of arrhythmia may be manifestation of toxicity due to increased irritability
2. Alterations in rhythmicity
 - a. Wandering or shifting pacemaker
 - b. Sinus arrest.
3. Alterations in conductivity
 - a. Excessive first degree atrioventricular block is common early sign
 - b. Varying degrees of atrioventricular block with dropped beat and idioventricular rhythm.
 - c. Bundle branch block is seldom caused by digitalis
4. Alterations in contractility
 - a. Increasing congestive heart failure therapeutic paradox.

II. GASTROINTESTINAL

1. Anorexia
2. Nausea and vomiting (central effect)
3. Diarrhea (occurs very rarely).

III. NEUROLOGICAL

1. Cerebral
 - a. Fatigue, lassitude, lassitude and malaise
 - b. Depression, confusion, delirium, and rarely convulsions
 - c. Headache
 - d. Vertigo
2. Peripheral
 - a. Numbness, especially of trigeminal nerve.
 - b. Paresthesias.

IV. VISUAL

1. Alterations in color vision with colored halos
2. Scotomata
3. Blurring, shimmering, micropsia, macropsia.
4. Temporary and permanent amblyopia.

V. ALLERGIC

1. Urticaria
2. Eosinophilia

VI. ENDOCRINOLOGIC

Gynecomastia (may not truly be toxic sign)

TREATMENT OF TOXICITY

1. Cessation of administration of digitalis preparation until intoxication disappears
2. Administration of potassium salts orally or parenterally if necessary when alterations in myocardial

irritability and rhythmicity present.

3. The administration of procaine amide if potassium salt in effect fails to eliminate digitalis arrhythmias.

of change in blood pressure due to
of the respiratory index over other methods of
respiratory reserve are illustrated.

The Collagen Diseases.

GEORGE COOPER JR., W. H. MELTON and EDWARD F. CAWLEY University of Virginia Hospital, Charlottesville, Va.

The purpose of the exhibit is twofold: (1) to present the clinical features of collagen diseases, with emphasis on the changes and pathologically demonstrable manifestations, and (2) to explain the pathology behind the clinical features and the interrelationship of skin and other collagen diseases. Emphasis is placed on disseminated lupus erythematosus, pyoderma gangrenosum, dermatomyositis, and scleroderma.

Birth Lesions in Newborn Infants.

PH. SCHWARTZ, Warren State Hospital, Warren, Pa.

The exhibit illustrates the causes and the pathogenesis of lesions of the nervous system of the newborn infant and deals with the most frequent types of this condition. Cerebral hemorrhages and softening processes can be detected in 10% of the autopsies performed on newborn infants and children in the first four weeks after birth. Lesions of the nervous system in newborn infants induced by birth lesions represent the most important cause of infant mortality. Also, these lesions are of permanent importance in the etiology of later convulsions and epilepsy. Prevention of the birth lesions in the newborn infant is one of the most urgent tasks. In this exhibit, not only pictures but also specimens are demonstrated, showing fresh birth lesions—hemorrhages and softening processes—of the brain and their later sequelae.

Pharmacological Studies with 2-Trifluoromethyl-5,6-Dichloro-L-tryptophan and Xenophon Callias, New York.

Pharmacological studies have been made of the chemical and pharmacological properties of 2-Trifluoromethyl-5,6-Dichloro-L-tryptophan and attempts to correlate them with clinical results with the drug in 180 patients with various metabolic disorders (phenylketonuria, galactosemia, tyrosinemia, etc.). This exhibit contains (1) chemical structure, (2) pharmacological studies that should be of interest to the clinician, and (3) clinical studies in which the drug has been used.

The Rationale of Trypsin Therapy in Acute Inflammatory Disorders.

IRVING INGERFELD, IRVING S. SHOKER, and MARCUS FELDSTEIN, New York Medical College, New York.

Recent clinical studies have shown that an important homeostatic disturbance is acutely induced tissue in acute inflammation. Trypsin gives intramolecularly rapid cleavage of this enzyme and metabolic imbalances. Experimental and clinical data are presented to show the efficacy of this therapeutic modality in inflammatory states characterized by the general practitioner: e.g., traumatic edema, localized infection, and respiratory tract infection. The exhibit also presents the use of trypsin in postoperative complications (mechanical obstruction).

Evaluation of Xanthine Drugs in Chronic Pulmonary Diseases: Use of a New Respiratory Index.

S. WILLIAM SMOY, Brown General Hospital, Veterans Administration Center Dayton, Ohio.

The exhibit presents, by means of drawings and charts illustrating the method of obtaining the respiratory index (RI), the correlation of the values of RI with the numerical values of the index and the most beneficial use of these various values and the use of this respiratory index in the evaluation of various xanthine drugs used in chronic bronchitis, pulmonary and emphysema, compared with placebo in the same patients. The exhibit presents, by means of charts, before

A Yearly Physical Examination for E. try M.D.

This exhibit on physical examinations is presented by the Section on General Practice with the cooperation of the American Academy of General Practice and the National Tuberculosis Association.

The demonstration is made possible by the cooperation and financial assistance of the General Electric X-Ray Corporation.

Examinations and consultations will be made as follows:

Electrocardiogram registration	Space 534
Electrocardiogram strip	Space 534
Electrocardiogram consultation	Space 534
X-ray registration	Space 538
X-ray films	Space 539
X-ray consultation	Space 538

A competent group of consultants will be on duty daily to consult with physicians about the electrocardiograms and X-rays that are made.

Serum Glutamic Oxaloacetic Transaminase (GOT) in Myocardial Infarction

BERNARD H. OSTROW, DANIEL STEINBERG, JOHN M. EVANS,
and HOWARD E. TICKET, George Washington University School of Medicine, Washington, D. C., and
National Heart Institute, National Institutes of Health
Bethesda, Md.

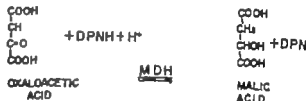
The exhibit shows the principle of the determination and the method (in outline) as well as an assay of glutamic-oxaloacetic transaminase (GOT). Typical curves show the value of GOT in differential diagnosis of (a) angina pectoris or coronary insufficiency versus infarction, (b) pericarditis versus infarction, (c) objective basis for diagnosis when electrocardiogram is marked by picture of old infarction, bundle-branch block, dexta- or left-ventricular hypertrophy, and (d) detection of stenosis. Summary panel gives correlation between clinical and electrocardiographic results and GOT results.

THE PRINCIPLE

The Glutamic Oxaloacetic Transaminase (GOT) Reaction



Plus the Malic Dehydrogenase (MDH) Reaction



Measures GOT Concentration Through Rate of DPNH Oxidation

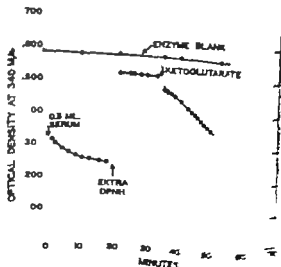
I. MIX

- ASPARTIC ACID
- PATIENT'S SERUM
- DPNH
- MDH
- PHOSPHATE BUFFER

DPNH DISAPPEARANCE DUE TO OTHER ENZYME SYSTEMS

II. AFTER 30 MINUTES ADD

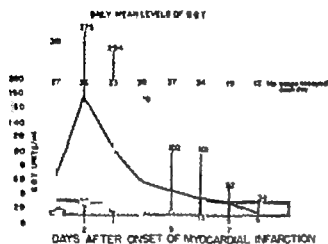
- ALPHA-KETO GLUTARATE GOT AND MDH
REACTIONS INITIATED DPNH DISAPPEARANCE
RATE DETERMINED BY GOT CONCENTRATION



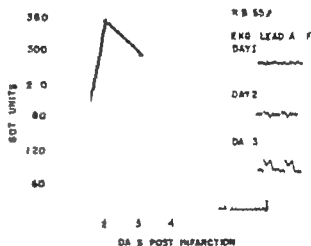
TRANSMURAL MYOCARDIAL INFARCTION

13 Cases - All Had Elevated GOT

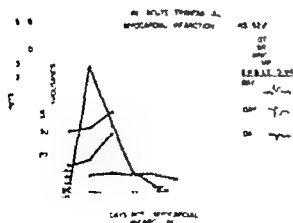
Daily GOT Levels



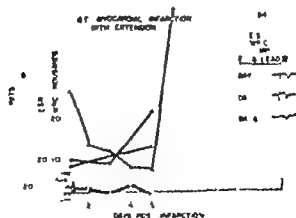
Severe Infarction With Ruptured Septum



Typical Case

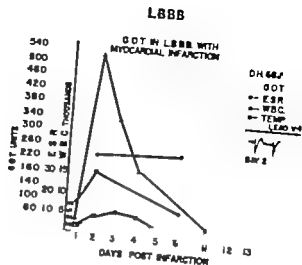
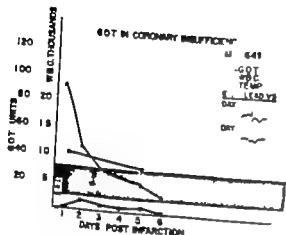


Extension

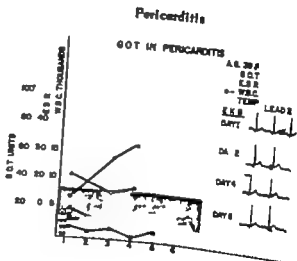
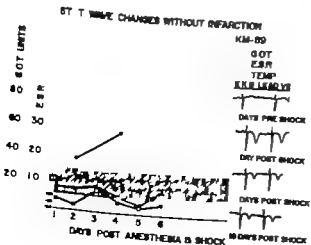


Confirms LeDuc, Wroblewski and Karmen (Science 1954)

5



ST - T Changes Only



SUMMARY

OUR FINDINGS

GOT AUTOPSY CORRELATION 201 PATIENTS

TOTAL NO DEATHS 2 ; AUTOPSY RATE
NO AUTOPSED 18 75 %

INFARCTION AUTOPSY	GOT INFARCT RANGE	% CORRELATION
12	154	92

ONE CASE OF MYOCARDITIS

GOT CLINICAL AND EKG CORRELATION IN 201 PATIENTS

EKG	NO CASES	CLINICAL EVALUATION		GOT		%CORRELATION CLINICAL VS. GOT
		POS	NEG	POS	NEG	
GROUP I ACUTE TRANSMURAL INFARCTION	60	60	0	56	2	97%
GROUP II NORMAL	18	0	18	4	14	78%
GROUP III LUNGE MYOCARDIAL INFARCTION DISTAL EFFECT	77	18	10	28	49	84%
GROUP IV SUBENDOCARDIAL ISCHEMIA	8	4		4	1	100%
GROUP V OLD PERICARDITIS OLD INFARCT	41	16	4	21	20	83%
TOTAL	201	—	—	—	—	84%

GOT ASSAYS ARE

ELEVATED IN

- 1 ACUTE MYOCARDIAL INFARCTION
- 2 ACTIVE HEPTO CELLULAR DAMAGE
- 3 MYOCARDITIS INFLAMMATORY
- 4 EXTENSIVE LOBAR PNEUMONIA
- 5 EXTENSIVE MUSCULAR DAMAGE
- 6 HEMOLYTIC CRISIS

NORMAL IN (LIVER NOT INVOLVED)

- 1 PERICARDITIS
- 2 ANGINA PECTORIS OR CORONARY INSUFFICIENCY
ST T WAVE CHANGES ONLY
- 3 CANCER
- 4 RHEUMATIC FEVER
- 5 INFECTIOUS DISEASES
- 6 ACUTE CHOLECYSTITIS
- 7 PERFORATED PEPTIC ULCER
- 8 RHEUMATOID ARTHRITIS

GOT IS A NEW MEASURE OF MYOCARDIAL NECROSIS



Rheumatoid Arthritis.

EUGENE F. TRAUT, CHESTER B. THWAIT, JOSEPH E. ALL-
GOTT, EDWIN W. PASSARELLI, H. PAUL CARSTENS,
HARVEY M. CLARK, GEORGE J. GUMBERMAN, and
ALAN R. FINKEL, Cook County Hospital, Hektors
Institute for Medical Research and University of
Illinois College of Medicine, Chicago.

The exhibit displays rheumatoid arthritis in its entirety showing the
number of patients with joint disease and giving the symptoms of rheu-
matoid arthritis. It shows, with charts describing modern concepts of
etiology, description of its pathology and its symptoms, physical findings,
and microscopic characteristics. Charts describe the differentiation from
other rheumatic diseases, the outlook, and treatment.

PURPOSE OF THE EXHIBIT

THIS EXHIBIT IS PLANNED TO
FULFILL THE PURPOSE OF
THE AMERICAN RHEUMATISM
FOUNDATION, AND THE AMERICAN
RHEUMATISM ASSOCIATION

*to increase the interest
and knowledge of practicing
physicians in an important
field of joint disease*

THE EXHIBIT IS SUPPORTED
BY A GRANT FROM THE ILLINOIS
CHAPTER OF THE AMERICAN
RHEUMATISM FOUNDATION

ACKNOWLEDGMENT IS MADE
TO THE FOLLOWING PUBLISHERS
FOR THE USE OF ILLUSTRATIONS
FROM

RHEUMATIC DISEASES,
DIAGNOSIS AND TREATMENT
by EUGENE F. TRAUT
THE C.V. MOBBY COMPANY

and
DIAGNOSIS IN JOINT DISEASE
by ALLISON and GHORMLEY
WILLIAM WOOD and COMPANY



SYNONYMS

CHRONIC INFECTIOUS ARTHRITIS

ATROPHIC ARTHRITIS

PROLIFERATIVE ARTHRITIS

CHRONIC ANKYLOSING ARTHRITIS

ARTHRITIS DEFORMANS

STILL'S DISEASE

CHAUSSARD'S DISEASE

STRUMPELL-MAIRE SPONDYLITIS

SPONDYLITIS ANKYLOPOETICA

FROM THE ARTHRITIS CLINIC OF
COOK COUNTY HOSPITAL, AND
FROM THE HECTORS INSTITUTE
FOR MEDICAL RESEARCH AND
THE COOK COUNTY GRABOZE
SCHOOL OF MEDICINE, AND
FROM THE UNIVERSITY OF
ILLINOIS, COLLEGE OF
MEDICINE—CHICAGO, ILL.

EXHIBIT DESIGNED BY
ANNE M. BARTON
MEDICAL ILLUSTRATIONS
COOK COUNTY HOSPITAL
SCHOOL OF MEDICINE

ETIOLOGY

ETIOLOGY UNKNOWN

PREDISPOSING FACTORS

CONSTITUTION

Youth or any age

Females

INFECTION

Streptococcal ?



CHEMICAL

Selye's Stress Syndrome (remission in jaundice pregnancy surgery and with cortisone or ACTH)

ENDOCRINE

Dysfunction (hypofunction ?) of anterior pituitary adrenal axis →
→ (infection ?) → ARTHRITIS

ALLERGY

Unstable individuals

54 % history of rhinitis and migraine

19 % history asthma hay fever urticaria

Sensitive to trauma change of temperature
fatigue infection barometric changes

A delayed allergic reaction

PSYCHIC DISTURBANCE

PATHOLOGY

SYNOVIAL MEMBRANE PRIMARILY INVOLVED, FORMS "PANNUS"

"Pannus is granulation tissue infiltrated with plasma and lymphoid cells"



PANNUS ADVANCES ACROSS CARTILAGE FROM PERIPHERY, ERODES CARTILAGE

Cell nests
(lymphoid infiltration)



HEALING

Adhesions unite joints
(ankylosis)
Synostosis later



OSTEOPOROSIS



RHEUMATOID NODULE



CONCOMITANT SOFT TISSUE CHANGES

Myositis
Neuritis
Arteritis



PATHOLOGY

• • • • •



—





—





SYMPTOMS & SIGNS

INSIDIOUS ONSET FOLLOWING

Acute infection
Exposure to cold
Emotional strain
Surgical trauma
Fatigue
Unknown excitant



PRODROMES

Weakness
Loss of appetite and weight
Pallor
Transient swelling of fingers on awakening
Numbness and tingling of hands
Low fever chilliness night sweats

LATER SYMPTOMS AND FINDINGS (usual)

Proximal interphalangeal joints
Spindle-shaped swellings
Symmetrical (rarely monoarticular)
Atrophy of hands and whole body
Pain swelling tenderness stiffness
Ulnar deviation
Clammy shiny cyanotic extremities
Ankylosis

Soft tissues
(periarticular and interarticular)

Tender muscles
Nodules
Contractures

PATIENTS



ANKYLOSING SPONDYLITIS



ANKYLOSING SPONDYLITIS



ANKYLOSING SPONDYLITIS



ANKYLOSING SPONDYLITIS



ANKYLOSING SPONDYLITIS



ANKYLOSING SPONDYLITIS



TREATMENT

OF DEFORMITY



INFECTIOUS COMPLICATIONS

STERIODS EXACERBATE

and require special precautions

Interferon

Encephalitis

Psychosis

Diabetes mellitus

Respiratory failure

Myocardial infarction

Stroke



DIFFERENTIAL DIAGNOSIS PROGNOSIS

DIFFERENTIAL DIAGNOSIS

RELATIVE CRITERIA

	PATTERN	SEX	AGE	FEVER	SHOULDER SWELLING	LEUKOCYTES	ANEMIA	SEDIMENTATION RATE
ACUTE RHEUMATIC FEVER	Large joints, polyarthralgia, erythema	Male and female	Childhood	Present	Present	Present	Often	Elevated
RHEUMATOID ARTHRITIS	Small joints, symmetric	Female > male	Youth	Occasional	requent	Slight	Moderate hypochromic	Elevated
DEGENERATIVE ARTHRITIS	Weight-bearing joints, osteophytes	Male and female	Elderly	0	0	0	0	Unaffected
GOUTY ARTHRITIS	Small joints, weight-bearing joints, chondrocalcinosis	Male	35-55	In attack	In attack	In attack	0	Elevated in attack
ARTHRITIS IN LYMPH CYTOMA (HODKIN'S DYSPLASIA)	Rheumatoid pattern	Female	20-40	Present	Present	Leukopenia	Present	Elevated
SERONEURAL ARTHRITIS	Weight-bearing joints, sterile fluid, no synovial fluid	Male	Youth	Occasional	Present	Present	0	Elevated
TUBERCULOUS ARTHRITIS	Weight-bearing joints, noninfectious	Male and female	Childhood	Present	Variable	0	Present	Elevated
TRABECULAR ARTHRITIS	Asymmetric, noninfectious	Male predominates	Any age		Present		0	Unaffected
CHANCER	Weight-bearing joints (bones)	Male predominates	Over 40	0	Present	0	0	Unaffected

PROGNOSIS

DETERMINING FACTORS

PATIENT

Constitution, intelligence, cooperation
Type of disease (progressive or remitting)
Stage of disease

MEDICAL CARE

Availability
Enthusiasm
Quality

FLUCTUATING COURSE

Remissions
Frequency
Treatment (especially long or permanent)
Final infection type

DEFORMITIES

Reversible by education—medical orthopedics
Reversible by surgery
Destroyed joints cannot be restored

RELENTLESS PROGRESSION

Atrophic or neural-dystrophic type

DEATH

Life shortened, severe cases
From intercurrent infection

GREATER ADVANCES HAVE BEEN MADE
IN THE PAST 20 YEARS THAN IN THE
PRECEDING TEN CENTURIES

MEDICAL TEAMWORK

Clinical investigator
Endocrinologist
Biochemist
Metabolic expert
Psychiatrist
Pathologist

GROWTH OF ARTHRITIS CLINICS IN U.S.

150 clinics in 1950
250 clinics in 1955

GROWTH OF THE AMERICAN RHEUMATISM ASSOCIATION

800 members in 1950
800 members 1955

GROWTH OF THE INTERNATIONAL CONGRESS OF RHEUMATIC DISEASE

375 participants in 1950
600 participants in 1949

Epidemiology of Influenza as Demonstrated by a Study of Serum Pools.

GORONWY O. BROWN and ROSE RITA SCHMIDT, St. Louis University School of Medicine, St. Louis.

At the time of influenza epidemics, changes in antibody level can be demonstrated in serum pools collected by random sampling. Low levels of antibody against the causative strain of virus occur prior to epidemics, and a distinct rise in antibodies is noted after the epidemic. Serum pools divided according to the age of individuals contributing to the pool demonstrate the time of disappearance of older virus strains from community. Type of influenza virus currently present in a community can be shown by examination of serum pools of infants.

COMPARISON OF THE SEROLOGICAL CHARACTERISTICS OF INFLUENZA VIRUS STRAINS USED IN THIS STUDY

EXPRESSED IN PERCENTAGE OF ANTIGENIC RELATIONSHIP
SERA TREATED WITH R D C

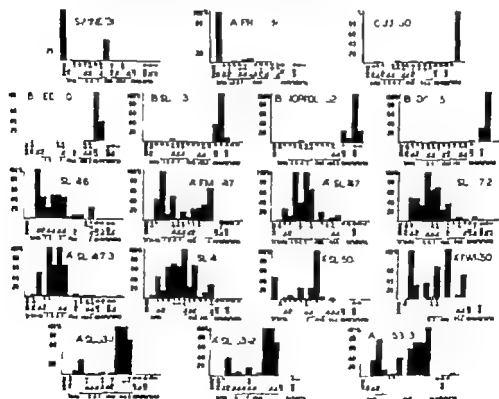


CHART I

Eighteen strains of influenza virus were used in this study. The serological characteristics of each virus strain, using the antihemagglutinin reaction and testing the antiserum against all other strains, is illustrated above. The graphs represent per cent of antigenic relationship as determined by the formula of Archetti and Horsfall.

PLAN OF STUDY

We have studied Influenza antibody levels in pools of sera collected from individuals observed in hospitals in the St. Louis Metropolitan area continuously since July 1951. Aliquots of serum submitted to the hospital serological laboratories for tests without regard to diagnosis, were included in the pools.

The hospitals cooperating in the study were Firmin Desloge Hospital, St. Mary's Hospital St. Mary's - Infirmary and St. Louis County Hospital. Geographically, the areas from which patients came covered well the entire St. Louis Metropolitan area.

In CHART 2 and CHART 3 the pools were made up of patient's sera of all ages only about 10 per cent being children. Hence, the picture presented is essentially that of adult sera.

In CHART 4 results are shown on pools of sera of infants 4 months to 23 months of age.

In CHART 5 sera of individuals born in a given year or in a given 5 year period are placed in separate pools.

CHART 2 AND CHART 3

IN CHART 2 AND CHART 3 monthly pools collected by random sampling including individuals of all ages averaging in number over 1000 sera per pool were tested for antibody content against 17 strains of influenza virus. The period of study extends from July 1951 to July 1955. During this time the most severe epidemic of influenza was in A outbreak occurring in January 1953. Very mild outbreaks of Type B influenza occurred in the winter of 1950 and the autumn and winter of 1954-1955. The results of this study may be summarized as follows:

1. A rise in influenza antibodies following an outbreak of this infection can be demonstrated in serum pools collected by random sampling. This is demonstrable by the antihemagglutinin test as well as by the complement fixation reaction. This indicates community wide distribution of virus and a high percentage of inapparent infection since only a very small percentage of the individuals from whom serum was collected had influenza or any other recognizable respiratory infection.

2. Pre-epidemic antibody levels against the strain of virus subsequently found to be the cause of an outbreak were lower than against previously isolated serologically related viruses. This suggests that antigenic variation of newly appearing viruses is of more importance in the development of an epidemic than loss of resistance to previously occurring strains.

3. Anamnestic rises in antibody titre occur against viruses serologically related to the causative strain of a given outbreak to a height greater than that developed against the newly appearing virus. In these pools, representing all ages, such a rise is seen after the A epidemic of 1953 not only against other A strains but also against some influenza. Although this is only distantly related to the A virus of 1953.

CHART 2

INFLUENZA ANTIHAGGLUTININ TITRE MONTHLY SERUM POOLS - R D E TREATED-ALL AGES INCLUDED IN POOLS

NUMBER OF SERA IN EACH
MONTHLY POOL

SWINE

A PR 8 '34

A D S C - S T L 46

A F M - 1 47

A S L 47 4

A S L 50

A F W - 150

A S L 53 1

CASES SEROLOGICALLY POSITIVE AS
FOUND FOR TYPE A IN OUR LABS IN ST LOUIS

CASES SEROLOGICALLY POSITIVE
FOR TYPE A REPORTED TO W H O

COMPLEMENT FIXATION REACTIONS OF A INFLUENZA VIRUSES WITH SERUM POOLS

STRAIN F M 1 A

STRAIN S T L 47 4 A

STRAIN F W - 150 A

STRAIN S T L 53 1 A

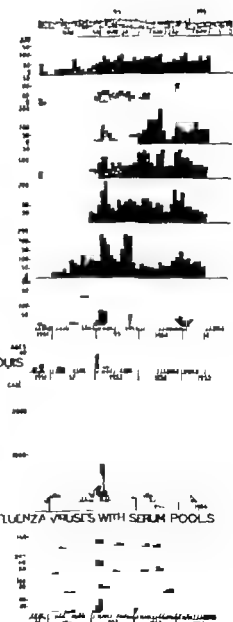


CHART 3

INFLUENZA ANTIHEMAGGLUTININ TITRE MONTHLY SERUM POOLS - R D E TREATED-ALL AGES INCLUDED IN POOLS

NUMBER OF SERA IN EACH
MONTHLY POOL

TYPE C JJ

CASES SEROLOGICALLY POSITIVE FOR
INFLUENZA TYPE C REPORTED TO W.H.O.
CASES SEROLOGICALLY POSITIVE FOR
INFLUENZA TYPE C IN ST LOUIS

LEE 1940 B

ST LOUIS 1943 -1B

NORFOLK 1952 B

CASES SEROLOGICALLY POSITIVE
FOR INFLUENZA TYPE B REPORTED
TO W.H.O.

CASES SHOWING FOURFOLD RISE IN
H I TITRE FOR TYPE B IN ST LOUIS

INFLUENZA COMPLEMENT FIXING BODIES IN SERUM
POOLS IN ST LOUIS

TYPE A

TYPE A

TYPE B

TYPE C

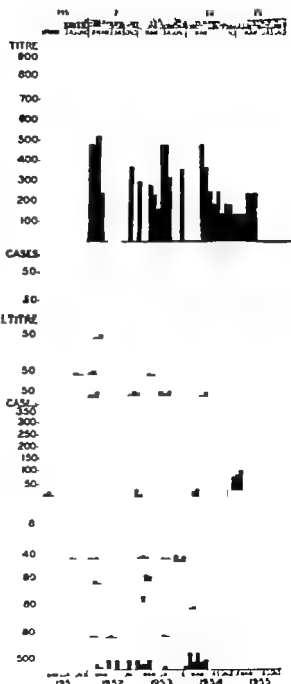


CHART 4

This chart illustrates results obtained with serum pools of infants four months to twenty-three months of age, collected quarterly from 1952 to 1955. Other studies have shown maternal transmission of influenza antibodies which disappear about the third month of life. These infants have been exposed only to those viruses present since the time of their birth.

The results differ from those obtained in adult serum pools (Chart 2 and Chart 3) as follows:

1. A much higher antibody level was developed in 1953 against the causative virus of that year's epidemic than against any other virus strain. The anamnestic rise of antibody against related viruses to heights greater than against the causative virus seen in adult pools is absent in the infant pools. Presumably, actual previous exposure to these viruses is necessary for the appearance of this phenomenon.

2. Antibodies were not found against Swine Influenza nor against the Cuyper Strain (A FM 150). Antibodies against A SL 501 do not appear after 1952. This probably indicates lack of exposure to these viruses. There is evidence of exposure to an A virus of the serological characteristic of A FM 147 in 1954 and 1955 although no outbreak was recognized clinically at the time. Type C antibodies are at high levels at the beginning and end of the period of observation, but low or absent in 1953 and early 1954.

3. Appearance of viruses of new antigenic patterns such as B-Norfolk 52 and B-D.C. 55 do not insure an extensive epidemic since the outbreaks produced were very mild. Hence the factor of virulence is evidently of great importance. Apparently viruses of the antigenic character of B-Norfolk 52 were present in both 1952 and 1954 and 1955. Strain B-D.C. 55 was present only in 1954 and 1955.

4. Infant serum pools reflect much more accurately than adult pools the viruses actually present in a metropolitan area during a given period of time.

CHART 4
 ANTIHEMAGGLUTININ TITRE AGAINST INFLUENZA
 VIRUS IN SERUM POOLS OF INFANTS 4 MONTHS
 TO 24 MONTHS OF AGE

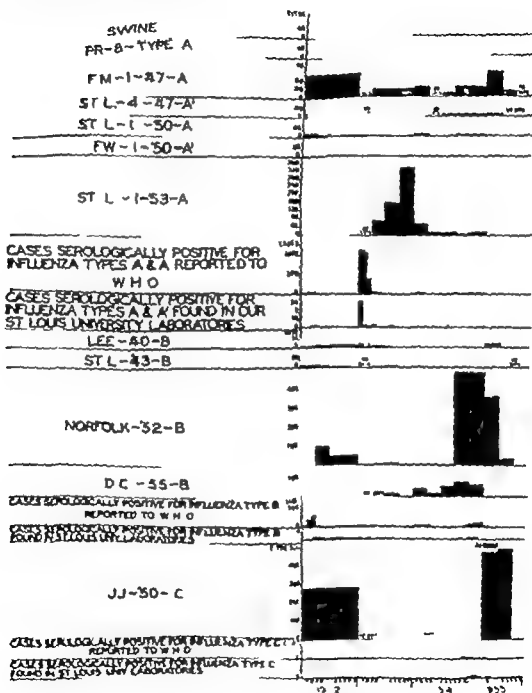


CHART 5

In Chart 5 antibody titres are shown on serum pools collected in the year 1955 according to the year of birth of those contributing to the pool. The following findings were obtained:

1. Some virus strains after being present for a period of years, disappear. Note graphs on Swine A PR 8-34 B-lee-40 and B-51-43-1.

2. Titres of antibody against Swine virus prior to 1918 are high and then decline rapidly and eventually disappear. This may mean that this strain was possibly the causative agent of the great pandemic of 1918-1920 or others on similar grounds have suggested.

3. Strains of old antigenic patterns may reappear. Note strain A SL 50-1 which is closely related to Swine virus. This strain isolated from a sporadic case of influenza in St. Louis in 1940 caused no epidemic and hence must have been avirulent.

4. The Cuppel strain A FU 1-40 isolated elsewhere appears to have been practically absent from the St. Louis area.

5. The tendency is noted for those born in recent years to have the highest antibody titre against newly isolated strains and for those born in earlier years to have the highest titre against viruses isolated in years not far removed from their date of birth. Irregular high levels of antibody titres against certain strains in the years prior to 1918 may mean periods of earlier prevalence of these viruses.

Studies in Headache.

ADRIAN M. OTTFELD, HELEN GOODILL, and HAROLD C. WHOLLY The New York Hospital, New York.

The exhibit consists of (1) photographs and legends describing the cranial artery plethysmography and skin lamp plethysmographic equipment used in the studies; (2) photographs depicting the behavior of the sphenoparietal vascular bed in headache; (3) pulse wave tracings showing the behavior of the extracranial arteries in headache; (4) charts showing EKG and electrocortical findings in the migraine syndrome; (5) charts establishing the experimental evidence in support of the view that there is increased activity in the scalp during headache; substances that decrease tissue and lower deep pain threshold; and (6) charts that demonstrate our present knowledge of the mechanism and site of action of ergotamine tartrate and nortrypterine in circulatory headache.

Course of Sarcoïdosis.

M. LUCIA SOKES and HAROLD L. ISRAEL, Henry Phipps Institute Graduate School, University of Pennsylvania School of Medicine, and Thomas Medical College of Pennsylvania, Philadelphia.

The exhibit presents an evaluation of 100 patients with sarcoïdosis who have been under observation for periods of time extending as far as 20 years. The diagnosis in 71 cases was supported by histological evidence. Charts depict epidemiological, clinical, and radiological characteristics. Life tables are presented to demonstrate the fate of patients with this disease. The clinical variability of the course of sarcoïdosis is illustrated by case histories and transparencies of lung roentgenograms. At the end of observation, 25 stated that 34.4% of 149 patients appeared to have recovered fully, 41% had improved, 13.4% remained unchanged, 17.4% had worsened, and 7.4% had died. The prognosis of sarcoïdosis was established in 34.7.

Struma Lymphomatosa: Primary Thyroid Failure with Compensatory Thyroid Enlargement.

PETER G. SKELLERN, GEORGE CYRIL JR., E. PERRY MC CALLISTER, JOHN B. HAZARD, HELEN BROWN, and LEONA A. LEWIS, the Cleveland Clinic Foundation, Cleveland.

Struma lymphomatosa has been reported as a rare type of tumor due to chronic thyroiditis. The exhibit shows the incidence of this type of tumor is not rare and that it is not true thyroiditis but rather primary thyroid cell failure with compensatory thyroid enlargement due to hyperplasia with or without atrophy, secondary lymphocytic infiltration, and atrophy. The exhibit is based on the study of 50 patients with struma lymphomatosa and consists of descriptions and illustrations of the pathological physiology, clinical features, recent laboratory tests that have

resulted in an accurate diagnosis of the disease, propensity and pathological studies based on serial biopsy specimens obtained on 15 of these patients. Since accurate diagnosis is now available, the treatment of choice is indicated therapy, which results in significant decrease in the size of the tumor as shown by photographs, and corrects both symptomatic and symptomatic thyroid failure.

Peripheral Arterial Insufficiency: An Evaluation of Vasodilating Measures.

LEWIS D. SITIN, Mount Vernon, N. Y.

A distinction must be made between vasodilating drugs that act on vessels of the skin and those that act on muscle. Most of the peripheral-acting agents are primarily skin vasodilators and should be employed in the treatment of cramps, but skin vasodilators predominate to have specific effect on such regions is desired, as in the prevention of trophic changes in the digits, the management of Raynaud's phenomenon and of necrosis, or therapy of ulcerating lesions of the hands and feet. In comparison, there are far fewer measures that have an influence on the arterial circulation, the major symptom of arterial ischemia. The exhibit portrays the differences in function between skin and muscle circulation, the regulation of blood flow to skin and the effectiveness of vasodilating measures to improve and open them.

Diabetes Today

HOWARD F. ROOT, ELLIOTT P. JOSLIN, FRANCESCA WHITE, ALEXANDER MARBLE, ALLEN P. JOSLIN, ROBERT F. BRADLEY and LEO P. KRAHL, Joslin Clinic, Boston.

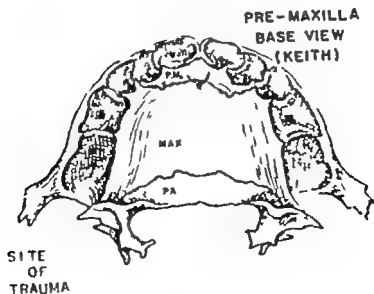
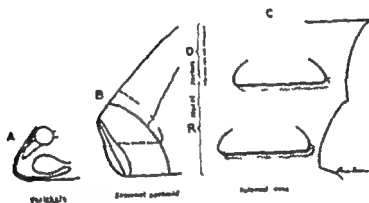
The exhibit presents our data on the use of the orally given type glycosyl agents and results obtained in the treatment of diabetic coma and in the management of diabetic pregnancy.

Accessory Variations in Corrupted Heart Disease.

EDMUND H. REPERT, JOHN J. THORPE, RICHARD HAMILTON, RICHARD HOYDA, C. A. FORDRETER and J. SCOTT BUTTERWORTH, New York University Postgraduate Medical School, New York, and THOMAS W. MATHRELY, Walter Reed Army Hospital, Washington, D. C.

The exhibit demonstrates some of the accessory findings in corrupted heart disease, as presented from tape recordings through a hybrid ear music microphone, and the electrocardiogram which is portrayed on the educational electrocardiograph. Additional data necessary to the understanding of each case is automatically obtained on an automatic screen by projector synchronized with the tape recordings, and such things as the electrocardiogram, x-rays, angiocardiotomy, pressure curves, and other cardiac catheterization data are shown.

HUMAN NOSE



SUMMARY OF EXHIBIT

- 1 FREQUENCY OF PRE-NATAL NATAL AND EARLY CHILDHOOD NASAL INJURIES IS VERY HIGH
- 2 THESE INJURIES CAUSE DEFORMITIES OF TEETH PALATE AND FACE IN ADDITION TO DEFORMITIES OF EXTERNAL NOSE AND SEPTUM ALSO DISTURB RELATION OF EXTERNAL NOSE TO INTERNAL NOSE
- 3 INJURIES CAN ARREST DECELERATE OR ACCELERATE GROWTH OF AN ORGAN OR ANY PART OR PARTS OF IT CHANGES MAY BE OF SIZE (QUANTITY) OR OF DIFFERENTIATION (QUALITY)
- 4 EARLY FETAL NASAL DISTURBANCES LESS LIKELY TO BE ASSOCIATED WITH DEFORMITIES OF OTHER STRUCTURES (GREATER TOTIPOTENCE)
- 5 MINOR INJURIES OF CHILDHOOD MAY CAUSE MAJOR DEFORMITIES LATER
- 6 EARLY MEDICAL AND SURGICAL CARE ADVISED
- 7 COOPERATION AND CONSULTATION OF ALL WHO ATTEND CHILDREN IMPERATIVE e g
GENERAL PRACTITIONER
OBSTETRICIAN - DENTIST
PEDIATRICIAN - ORTHODONTIST
RHINOLOGIST - ORAL SURGEON

OCCIPUT-NOSE MEASUREMENTS AT
BIRTH FREQUENTLY AS LONG AS
OCCIPUT-CHIN MEASUREMENTS
OCCASIONALLY LONGER GREATER
LENGTH PREDISPOSES TO BIRTH TRAUMA

THE FOLLOWING DATA BY
DR MILDRED JACKSON
AND

DRS KARAYEGEN ERDEM JARA
PEDIATRIC DEPARTMENT
ILLINOIS MASONIC HOSP
CHICAGO

CASE NUMBER	TIME AFTER BIRTH	OCCIPUT TO CHIN	OCCIPUT TO NOSE
1	1 HOUR 7 DAYS	12 5 cm 13 0	13 0 cm 13 5
2	24 H 4 D	13 0 12 5	13 0 13 0
3	24 H 5 D	14 0 15 0	15 0 15 0
4	14 H 5 D	12 5 13 0	14 0 15 0
5	6 H 2 D	11 0 13 0	13 0 14 0
6	7 H 3 D	12 0 13 0	14 0 13 5
7	15 H 4 D	13 0 14 0	14 0 13 0
8	1 H 4 D	13 0 13 0	13 5 14 0
9	14 H 2 D	13 0 13 5	13 5 14 0
10	11 H 3 D	12 0 13 0	13 0 13 0

DATA BY DR IRWIN E GAYNON

NO	CHIN - OCCIPUT (mm)	CHIN - NOSE (cm)
1	13 8	13 4
2	14 0	14 5
3	14 2	14 0
4	12 9	12 2
5	14 3	14 2
6	13 8	13 2
7	14 0	13 7
8	12 8	13 0
9	13 8	12 4
10	13 9	13 7
11	11 8	10 8
12	13 4	12 0
13	13 6	13 0
14	14 2	13 1
15	12 8	12 3

INCIDENCE OF BIRTH TRAUMA

	CASES	GROSS CHANGES	FLAT
<u>PHILPOTT</u> DENVER	202	5 8 %	68 %
<u>DICKSON</u> HOUSTON	107	5 %	NOT GIVEN
<u>GAYNON</u> MILWAUKEE	100	10 %	52 %
<u>COTTLE</u> et al CHICAGO	300	6 %	38 %

OCCIPUT-NOSE MEASUREMENTS AT
 BIRTH FREQUENTLY AS LONG AS
 OCCIPUT-CHIN MEASUREMENTS
 OCCASIONALLY LONGER GREATER
 LENGTH PREDISPOSES TO BIRTH TRAUMA

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3	24 H 5 D	14 0 15 0	15 0 15 0
4	14 H 5 D	12 5 13 0	14 0 15 0
5	6 H 2 D	11 0 13 0	13 0 14 0
6	7 H 3 D	12 0 13 0	14 0 13 5
7	15 H 4 D	13 0 14 0	14 0 13 0
8	1 H 4 D	13 0 13 0	13 5 14 0
9	14 H 2 D	13 0 13 5	13 5 14 0
10	11 H 3 D	12 0 13 0	13 0 13 0

DATA BY DR IRWIN E GAYNON

NO	CHN - OCCIPUT (cm)	CHN - NOSE (cm)
1	13.8	13.4
2	14.0	14.6
3	14.2	14.0
4	12.9	12.2
5	14.3	14.2
6	13.8	13.2
7	14.0	13.7
8	12.8	13.0
9	13.6	13.4
10	13.9	13.7
11	11.6	10.9
12	13.4	12.0
13	13.6	13.0
14	14.2	13.1
15	12.8	12.3

INCIDENCE OF BIRTH TRAUMA

GASES GROSS
 CHANGES FLAT

PHILPOTT

DENVER 202 5.8% 68%

DICKSON

107 6% NOT
HOUSTON GIVEN

GAYNON

100 10% 52%
MILWAUKEE

COTTLE

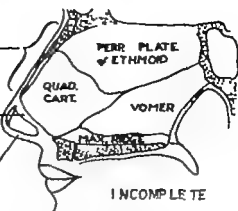
et al 300 6% 38%
CHICAGO

SEPTUM ANATOMY

1 BONE AND
CARTILAGE
PORTION

2. MEMBRANOUS
SEPTUM

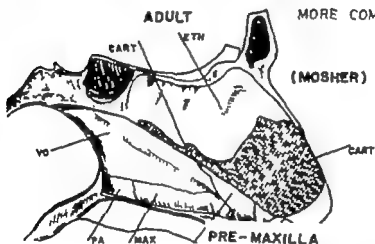
3. COLUMELLA



ADULT

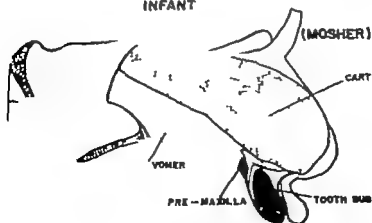
MORE COMPLETE

(MOSHER)



INFANT

(MOSHER)





CATALOGUE OF PHOTOGRAPHS

1. Nose absent at birth.
2. One nose. Complete absence of right lateral process.
3. One nose. Right lateral process growing as tubular polyp. Parts in the last two no junction mark of maxillary process to median nasal process (great totipotency).
4. Protuberant-like development of left nasal process. (tube)
5. Marked development of lobules; absent nasal bones. Very fine cartilaginous vault.
6. Square nostrils, short columella perpendicular alar feet incomplete nostril ring.
7. Short columella slight bifid tip, inverted triangular nostrils.
8. Markedly bifid nose wide premaxilla and columella incomplete nostril ring.
9. Bifid tip. Wide nasal chambers.
10. Depressed tip. Pseudocolumella.
11. Prenatal. At birth deformity solidly set indicating injury some time before birth.
12. Leans slightly. Nose is also pushed down and shows inverted triangle nostrils.
13. Leans considerably. Manipulation of nose possible.
14. Nasal injury. This and the two preceding typical birth injuries.
15. Two year old child. Birth injury not manipulatable and not self corrected by natural growth. Many do not correct themselves without interference.
16. Normal. Note inconspicuous lumen of airways.
17. Slightly flat. Inverted triangular nostrils.
18. Moderately flat. Horizontal nostrils. Note complete nostril rings, also in two preceding cases.
19. Markedly flat. Age 14 months. Persistent wide nostrils, short columella, airway much too wide and open.
20. Depressed vault persisting. Common sequella of injuries in this area.
21. Edema. Swelling of soft tissues. No fracture of bones. Estimation of cartilage damage difficult.
22. Hematoma between nasal bones and upper lateral cartilage. Must be evacuated.
23. Fracture soft tissue and cartilage injuries. Both external and internal nose need care.
24. Septal abscess and hematoma following injury.
25. Septal deviation. Common finding frequently found in children. Should be corrected early if indicated.
26. Malocclusion limited to one area.
27. Marked malocclusion.
28. Malalignment. (Teeth not well aligned) Nose and septum both need correction.
29. Marked malalignment. Note upper lateral incisors and flattened nose.
30. Diastema. Marked space between teeth associated with flat, wide pentagonal nostrils.
31. Alignment of teeth; midsagittal alignment. Physiological diastema.
32. Malalignment. Nose and septum to left of midsagittal line.
33. Teeth in good alignments. Nose and teeth practically normal.
34. Teeth in sagittal malalignment.
35. Nose-teeth malalignment. Nose to right of midsagittal line. Teeth to left. Also malocclusion.
36. Early injury. Injury at age 1 two. Evidence of square nostrils. Incomplete nostril ring. Teeth malalignment. Possible fetal factor.
37. Later injury. Nose more differentiated. (Earlier nasal injuries seem to produce lesser associated deformities).

- 38 Nose to right of midsagittal line
- 39 Moderate diastema. May be within physiological limits. Nose also to right
- 40 Septum and teeth malaligned Midsagittal line quite well preserved
- 41 Facial asymmetry Associated with nasal and dental deformities.
- 42 Asymmetry tilt, and rotation of head associated with marked nasal and septal deformities.
- 43 Head tilt to left with nasal, dental and facial asymmetry
- 44 Faulty posture Neck tilt and shoulders tilted.
- 45 Pyriform aperture asymmetry also associated with nasal septal, and facial deformities. See No. 73
- 46 Nasal index. Actually the clinical nasal index.

$$\frac{\text{Width of pyriform aperture}}{\text{nasal height}} \times 100 = \text{clinical nasal index.}$$
- 47 Tip index.

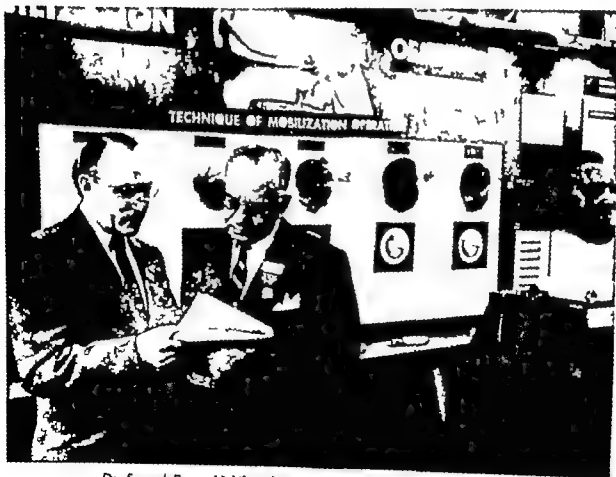
$$\frac{\text{Width of lobule at level of apex of nostril}}{\text{greatest width of lobule}} \times 100 = \text{Tip index.}$$
- 48 Anterior posterior asymmetry A study of the distances of each side of the face alar facial groove tip of nose from the back of the head or a central point in front
- 49 Vertical angle. Nasale to nasal tip to subnasale
- 50 Horizontal angle Angle from the tip of the nose to the ends of the widest diameter of the lobule
- 51 Normal seven year old. Vertical nostrils. Slight lumen.
- 52 Total arrest Child age nine with very small nose and crowding of teeth.
- 53 Total arrest Adult, small nose Cartilage vault depression. Cartilage septum not in same sagittal plane as bony septum. Facial asymmetry
- 54 Child type. Adult with nasal characteristics of a five year old.
- 55 Normal adult Pear shaped base. Good nostril ring. Narrow lumen. Long columella Thin alar wings. Good alar labial sulci. Projecting tip.
- 56 Large nose Almost uniform excessive growth of whole nose.
- 57 Large bone vault Excessive nasal bone development
- 58 Projecting septum. Puts nose on stretch. Holds lobule up.
- 59 OO — test Tip of nose moves down on saying OO — Indicates tension.
- 60 Round lobule Infantile type Just big Not differentiated into adult form. Large airways.
- 61 Infantile pyramid. Lobule growing in size poor differentiation. Bone and cartilage pyramids not growing at all.
- 62 Small nasal bone Otherwise large nose
- 63 Hypertrophy of tip Bony vault and lobule well developed. Cartilaginous vault depressed and small.
- 64 Hypotrophy Tip small for rest of nose
- 65 Wide lobule Marked widening of nose Short columella. Horizontal nostrils. Childhood injury Evidence of skin reaction to chronic nasal inflammation.
- 66 Large deviated nose and septum Childhood injury
- 67 Central teeth associated with previous nose Note tooth discoloration associated with mouth breathing
- 68 Small nose Childhood injury
- 69 Lateral incisors associated with previous nose (Malalignment)
- 70 Bulbous tip Poor nostril ring Short columella.
- 71 Nose flattened. Palate asymmetrical.
- 72 Malocclusion associated with previous case Physiological diastema. Wide patent nasal chambers.
- 73 Unequal internal ostia due to asymmetry of floors of pyriform aperture See slide #45 and laminograph.
- 74 Premaxilla—palate 1 Premaxilla 2 Maxilla 3 Palatine bone 4 Intermaxillary suture
- 75 Premaxilla wing behind nasal spine and between sharply demarcated lateral and inferior edges of pyriform aperture

Hektoen Gold Medal

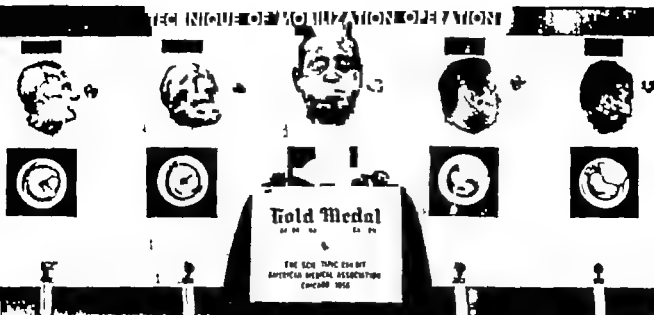
Mobilization of Stapes for Otosclerotic Deafness.

SAMUEL ROSEN, N. Y. York.

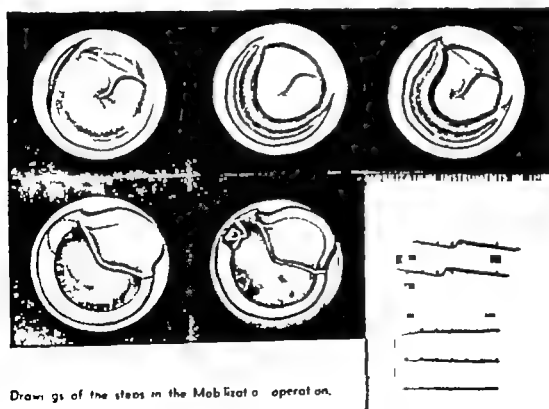
Anatomical specimens demonstrate various stages of the operation as the history of the mobilization operation preoperative and post-operative audiogram, radiologic views and goals of mobilization.



Dr. Samuel Rosen (right) and Dr. Joseph L. Goldman both of Mount Sinai Hospital, New York.

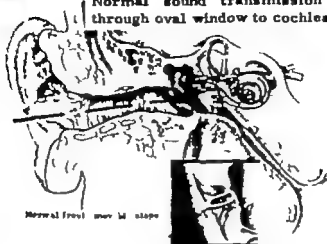


Human specimens showing the steps in the Mobilization operation.



MECHANISM OF DEAFNESS IN OTOSCLEROSIS

Normal sound transmission
through oval window to cochlea



Sound transmission to cochlea
obstructed by rigid footplate of stapes



INDICATIONS FOR STAPES MOBILIZATION

1. All cases suitable for fenestration.
2. Cases of early otosclerosis not yet operable by fenestration technique.
3. Cases of profound otosclerotic deafness where mobilization can contribute to auditory rehabilitation with or without the hearing aid.

1. Operation performed without pain under local anesthesia through ordinary ear speculum.
2. No shock.
3. Hospitalization 24 hours Resumes work in 1 or 2 days
4. Post-operative treatment - none
5. Patient may swim dive travel by air etc
6. Mobilization failure may be followed by successful fenestration.

1. Otitis media rare
2. Persistent perforation of drum rare
3. Facial paralysis none
4. Labyrinthitis - none

HISTORY OF STAPES MOBILIZATION

1876

Kessel
Boucheron
Miot
Faraci - TECHNIQUE
Blake
Jack
Burnett



1900

~~1900-1952~~

1952

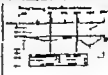
Rosen
TECHNIQUE



1876-1900 technique abandoned because of inadequate exposure of stapes. Rosen technique with adequate exposure of stapes permits precise manipulation.

ACHIEVEMENTS OF MOBILIZATION

1. Restoration of normal hearing



2. Almost normal hearing



3. Restoration of useful binaural hearing



4. Restoring conductive component (stapedial) in mixed deafness (ochlear and stapedial)



5. To permit successful use of hearing aid in extreme deafness

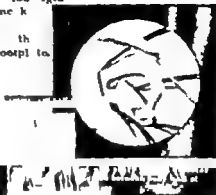


Mobilization of Stapes can restore hearing to the widest spectrum of deafness due to ossicular.

MOBILIZATION AT THE FOOTPLATE ITSELF

1 Stape footpl 1 too lgid
to mobilize the k

2 Cru f ct th
1 ving lgid footpl to



Mobilization of stapes
successfully employed
after unsuccessful
operation

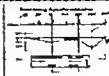


(Above) Represents method of mounting the footplate itself also fenestration of the oval window itself. Hearing improved to 10 db level. Fenestra of oval window probably more effective than elsewhere.

(Below) Successful mobilization of fixed stapes after L. mpart fenestration failed to improve the hearing.

ACHIEVEMENTS OF MOBILIZATION

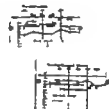
1. Restoration of normal hearing



2. Almost normal hearing



3. Restoration of useful binaural hearing



4. Restoring conductive component (tapedial) in mixed deafness (ochlear and tapedial)



5. To permit usefulness of hearing aid in extreme deafness



Mobilization of Stapes can restore hearing to the widest spectrum of deafness due to otosclerosis.

I. Total Hearing 30 db or Better

32%

A. Cases (Pre-op maximum bone conduction loss 10db)	42%
"B" Cases (30db) 34%
"C" Cases (30db) 21%

II. Hearing Improved to Various Levels of Usefulness

30 db or more improvement ---	67%
17 db or more improvement -----	42%
30 db or more improvement -----	39%

III. Improved by Mobilization at the Footplate

(When mobilization could not be achieved at the stapedial neck, mobilization at the footplate did more achieved the following additional results)

Improved to 30 db or better	34%
Improved to various levels of usefulness -----	55%

IV. Revisions

Improved to 30 db or better -----	27%
Improved to various levels of usefulness -----	69%

V. Improved following mobilization but have progressed to pre-operative level

2.7%

VI. Hearing worse than pre-operative level following mobilization 1%

Microscopically Benign but Clinically Malignant Lesions of the Head and Neck.

FREDERIC J. POLLOCK, University of Illinois, Illinois Eye
and Ear Infirmary and PAUL B. SZANTO, Cook County
Hospital, Chicago.

There are number of lesions observed by otolaryngologists that present benign histological appearance. Due to their location in proximity to vital structures, tendency to local recurrence, vascularity destructive character, and other factors, the life of the patient is endangered, just as in histologically malignant tumors. Recent representative cases, such as nasopharyngeal fibrosis, inverting papilloma, and glomus jugulare, are presented. These are illustrated by histories, clinical photographs, x-rays, and photomicrographs, demonstrating the importance of careful study and evaluation of each individual case. Final decision is determined by the combined efforts of the pathologist and the clinician.

Branchial Anomalies.

G. DONALD ALKERS, Grand Rapids, Mich.

A critical review of all known branchial anomalies will be presented in order to clarify their mode of origin and apprise their clinical significance. Branchial remnants appear in various well recognized regions in the head, neck and chest. Unusual locations, however require more careful analysis of embryologic development.

Headache: Diagnosis and Treatment.

RAYMOND L. HELENWATER, Cincinnati.

The exhibit of charts, graphs, and models depicts the diagnosis, classification, and treatment of all the headache types known, with special emphasis on vascular headache.

The Significance of Lumps in the Neck.

EDWARD C. BRADLOW JR., BENJAMIN M. VOLK, and KENNETH

WIRTH B. OLSON, Albany Medical College, Albany
N Y

The exhibit shows pictures of patients with lumps and swellings in the neck, charts classifying them into benign and malignant, and statistics showing the high incidence of cervical lymph node metastases in carcinoma of the head and neck. Emphasis is placed on the importance of excluding the possibility of carcinoma when dealing with the treatment of lumps in the neck. Diagrams and demonstration show instruments used in the routine search into the head and other retropharyngeal regions such as the hypopharynx and nasopharynx.

Secretory Stadiography in Health and Disease.

IRVING M. BLATT, PHILIP RUEN, JAMES H. MAXWELL, JOHN
F. HOLY and JOHN E. MACQUELLEN, University of
Michigan Medical School, Ann Arbor.

A new modification of stadiography is presented. The features of the technique are the use of polyethylene catheter, closed system of injection, and physiological reflex stimulation of the salivary gland to evacuate the contrast material. Postevacuation films have revealed pictures that have been of assistance in differentiating between normal and diseased conditions. This method, termed physiologic or secretory stadiography has been used to investigate various inflammatory and neoplastic diseases of the salivary glands.

Surgical Anatomy of the Head and Neck.

JOHN M. LOMB JR., St. Clare's Hospital, New York.

This exhibit demonstrates the surgical anatomy of the head and neck with sectional x-rays and fasciograms (color) drawings. These were prepared from cadaver specimens of the head and neck that were cut in sagittal and frontal sections. Each section was then x-rayed. These x-rays are three-dimensional representation of the anatomy. A fasciogram drawing was made from each x-ray. This exhibit of the anatomy is not an artist's or anatomist's interpretation but is an exact representation of the relationships of the body and neck tissue structures. The anatomy thus depicted is believed to be of considerable aid to the surgeon.

Experimental Hepatic Surgery Employing Differential Hypothermia.

CHARLES HUGGINS and EDWIN I. CARTER Naval Medical
Research Institute, National Naval Medical Center
Bethesda, Md

Serious saline solution, at temperature of 4 to 10 C. was poured into the peritoneal cavity of dogs, cools the intestine and liver temperatures to fall to 20 to 25 C within 10 minutes. This type of cooling proved to cause some reduction of the abdominal aorta above the celiac, prevents the gastrointestinal hemorrhage, liver damage, and death seen in normothermic control animals. During the hour of circulatory interruption, large portions of liver may be removed with great ease and low mortality. It is a safe, simple technique for deliberate liver resection and repairs after trauma and the outcome of over 150 animal experiments are presented.

SURGEONS ATTEMPTING HEPATIC RESECTION ARE CONFRONTED WITH

- An extremely vascular friable organ
- Massive hemorrhage
- Intraperitoneal effusion of bile
- Postoperative sepsis

CRITERIA FOR EVALUATING TECHNIQUES OF PARTIAL HEPATIC RESECTION

- 1 The surgeon should have a minimum of 60 MINUTES for deliberate hepatic surgery
- 2 Ancillary procedures designed to provide the surgeon this time
 - A Must be simple
 - B Add negligible risk
 - C Cause no permanent damage
- 3 There should be no impairment of liver function nor ability to regenerate
- 4 Bleeding and biliary leakage should be controlled by individual ligation of the vessels and bile ducts rather than by a technique of mass hemostasis
- 5 Neither devitalized liver tissue nor foreign bodies should remain at the resection site
- 6 A technique for partial hepatectomy should permit immediate one-stage resection of pathology discovered at laparotomy
- 7 The procedure should be applicable in small community hospitals as well as large medical centers

Temporary interruption of hepatic blood flow during partial hepatic resections would appear to offer the best chance of satisfying the above criteria. Unfortunately, the poor tolerance of the abdominal viscera to ischemia precludes use of this type of technique at normal temperature.

The first 5 groups of experiments were performed in an attempt to devise a procedure that would permit interruption of circulation to the abdominal viscera for one hour.

Group I Occlusion of Aorta and Portal Vein at Normal Temperature

WILL THE ABDOMINAL VISCERA TOLERATE ISCHEMIA FOR 60 MINUTES?

Study --

Number of Dogs 10

Points of Occlusion

Abdominal Aorta above celiac axis artery
Portal Vein in porta hepatis

Occluded 60 minutes

Mortality

9 of 10 dogs died within 48 hours
All dogs passed bloody stools

Conclusion

AORTIC OCCLUSION ABOVE THE CELIAC AXIS
ARTERY FOR 60 MINUTES AT NORMAL TEMPERATURE
RESULTED IN A HIGH MORTALITY



Group II Occlusion of Aorta and Portal Vein at Normal Temperature with POSTOPERATIVE SUPPORTIVE THERAPY

WILL POSTOPERATIVE ANTIBIOTICS AND INTRAVENOUS FLUIDS REDUCE THE MORTALITY FOLLOWING OCCLUSION OF THE AORTA AND PORTAL VEIN AT NORMAL TEMPERATURE?

Study --

Number of Dog 10

Points of Occlusion

Abdominal Aorta above the celiac axis artery
Portal vein in porta hepatis

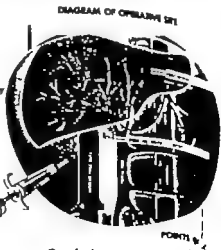
Occluded 60 minutes

Postoperative Supportive Therapy

- 1000 cc normal saline
- 0.2 Gm chloro-tetracycline
- 5 million units aqueous penicillin and
0 Gm dihydrostreptomycin
- All surviving dogs given 0.5 Gm chloro-tetracycline each day for 5 days

Mortality

1 of 10 dogs died within 48 hours
All dogs passed bloody stools



Conclusion

POSTOPERATIVE SUPPORTIVE MEASURES TO REDUCE THE MORTALITY FOLLOWING OCCLUSION OF THE AORTA AND PORTAL VEIN AT NORMAL TEMPERATURE BUT THE BASIC PATHOLOGY CHANGED

Group III INTRAPERITONEAL COOLING

DOES INTRAPERITONEAL COOLING OFFER A MEANS OF DECREASING THE METABOLISM OF THE ABDOMINAL VISCERA WITHOUT PREDISPOSING DOGS TO SHOCK OR INFECTION?

Study

Number of Dogs 10

Cooling Technique

The peritoneal cavity was repeatedly filled with sterile saline at temperature of 2-10°C. The abdominal contents were gently agitated and the saline aspirated. A total of 8-10 liters of saline were used in this fashion. 60 minutes later rewarmed was carried out using saline at temperature of 40-45°C. The abdomen was then closed.

Mortality None

Pathology

The abdominal viscera appeared normal to gross and microscopic examination at sacrifice three weeks later.

DIAGRAM OF OPERATIVE SITE



Conclusion

THIS TECHNIQUE OF COOLING APPEARED SAFE AND DID NOT PREDISPOSE DOGS TO SHOCK OR INFECTION.

Group IV Intraperitoneal Cooling PRIOR to Occlusion of the Abdominal Aorta and Portal Vein

WILL THE REDUCTION IN METABOLISM OF THE ABDOMINAL VISCERA ACHIEVED BY INTRAPERITONEAL COOLING PREVENT DEATH FROM 60 MINUTES OF OCCLUSION OF THE AORTA AND PORTAL VEIN?

Study

Number of Dogs 10

Points of Occlusion

Abdominal aorta above the renal vein artery
Portal Vein at porta hepatis

Occluded 60 minutes

Cooling Technique

The peritoneal cavity was repeatedly filled with sterile saline at temperature of 2-10°C. Temperatures of the bowels and vasculature fell below 25°C. The aorta and portal vein were then occluded. Rewarming was carried out after the occluded organs were released.

Mortality

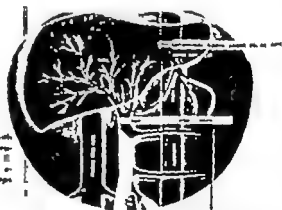
of 8 dogs died 3-5 days postoperative

Pathology

Cause of death Peritonitis

8 of the dogs demonstrated gross-intestinal hemorrhage not peritonitis

DIAGRAM OF OPERATIVE SITE



POINTS OF OCCLUSION

Conclusion

INTRAPERITONEAL COOLING PROTECTED DOGS AGAINST THE ACUTE LETHAL EFFECTS OF AORTIC OCCLUSION. IT DID NOT PROTECT AGAINST THE LATE-ONSET RESISTANCE TO INFECTION CAUSED BY ISCHEMIA.

Group V 1 Intraperitoneal Cooling prio. to 60 minutes of Occlusion of the Abdominal Aorta and Portal Vein with POSTOPERATIVE SUPPORTIVE THERAPY

WILL INTRAPERITONEAL COOLING PRIOR TO 60 MINUTES OF OCCLUSION OF THE AORTA AND PORTAL VEIN,
FOLLOWED ANTIMOTICS AND INTR VENOUS FLUIDS, PREVENT DEATH?

Study:

Number of Dogs 10

Points of Occlusion

Abd. aorta Abdo. vena Celiac Axis Artery
Portal Vein Pank. Ducts

Occluded: 60 minutes

Cooling Technique

The peritoneal cavity was maximally filled with sterile saline at
temperature -16°. Temperatures of the liver and liver mesentery
fell below 25°. The aorta and portal vein were then occluded. Oc-
cluding was started only after the cooling slugs were released.

Postoperative Supportive Therapy

100% normal saline

One chemo-therapeutic

saline with systemic penicillin and

One diuretic/antibiotic

All cooling dogs given One chemo-therapeutic each day for

days.

Mortality None



Conclusion

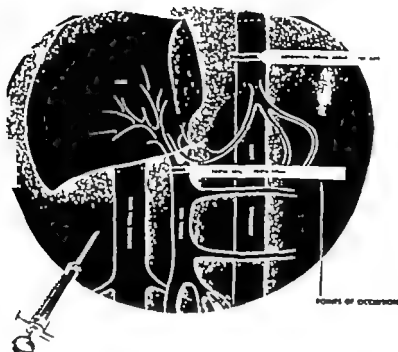
INTRAPERITONEAL COOLING WITH FORMALIN SLUGS AND PENICILLIN FORD RESISTED THIS DEATHS IN PERITONITIS THE INTRAPERITONEAL PERITONITIS LIVER DAMAGE, AND SEVERE BURN FOLLOWING 60 MINUTES OF OCCLUSION OF THE AORTA AND PORTAL VEIN IN INTRAPERITONEAL COOLING, DONE.

Using the Intraperitoneal cooling technique visceral temperatures fell below
25° C within 10 minutes

Gross and microscopic examination of the bowel liver and kidneys of these
dogs was normal at sacrifice three weeks following operation

Direct Intraperitoneal cooling appeared to offer a safe simple effective
means of preventing the lethal effects of 60 minutes of occlusion of the abdominal
aorta above the celiac axis

DIAGRAM OF OPERATIVE SITE



Partial hepatic resections were performed during the period of aortic occlusion without attempting to clamp vessels before transection. Hemostasis and control of biliary leakage were obtained solely by individual ligation of the macroscopic vessels and bile ducts

In Group VI an elective resection is simulated

In Group VII an emergency resection for rupture is simulated

Group VI VASCULAR OCCLUSION AFTER COOLING

Study

Number of Dogs 30

Points of Occlusion

Abdominal Aorta above Celiac Axis Artery

Portal Vein in Porta Hepatis

Occluded : 60 minutes

Specimen Resected 15%-90% of Liver

Postoperative Supportive Therapy

Antibiotics and Intravenous Fluids

Mortality 8 of 30 dogs died

Cause of Death

Within 48 hours postoperative

Pneumonia 1

Pneumothorax 1

Pancreatitis

*Hepatic insufficiency following
90% liver resection 1*

From 11 to 18 days postoperative

Dysenteria 1

Enteritis with intestinal perforation 1

Septicemic intoxication 1

Peritonitis 1

Pathology

The abdominal viscera of surviving dogs were NORMAL to gross and microscopic examination at similar three weeks postoperative

Group VII VASCULAR OCCLUSION 5 MINUTES PRIOR TO COOLING

Study

Number of Dogs 21

Points of Occlusion

Abdominal Aorta above Celiac Axis Artery

Portal Vein in Porta Hepatis

Occluded 60 minutes

Specimen Resected 40% 80% of Liver

Postoperative Supportive Therapy

Antibiotics and Intravenous Fluids

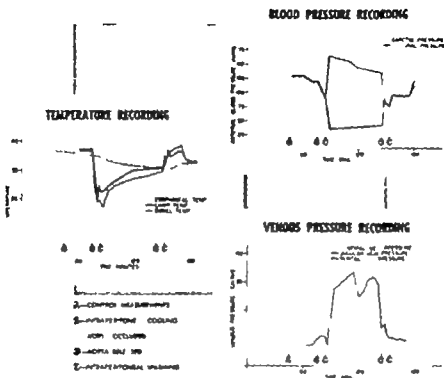
Mortality 4 of 21 dogs died

Cause of Death

<i>Postoperative hemorrhage from liver</i>	<i>1</i>
<i>Abdominal wound dehiscence on 2th postoperative day</i>	<i>1</i>

Pathology

The abdominal viscera of surviving dogs were normal to gross and microscopic examination at similar three weeks postoperative



The striking features to observe are:

- 1 The extremely rapid fall of bowel and liver temperatures during the short period of active cooling
- 2 The modest fall in esophageal temperature
- 3 The gradual decline of arterial blood pressure during active cooling and return to control values after warming
- 4 The insignificant change in peripheral venous pressure

SUMMARY AND CONCLUSIONS

- 1 Aortic occlusion above the celiac axis for 60 minutes at normal temperature resulted in high mortality
- 2 Postoperative antibiotics and intravenous fluids appeared to decrease this mortality but the basic pathology was unchanged
- 3 Intraperitoneal cooling appeared safe and did not appear to predispose dogs to shock or infection
- 4 Intraperitoneal cooling protected dogs against gastrointestinal hemorrhage associated with temporary aortic occlusion but not against lowered resistance to infection
- 5 Intraperitoneal cooling with postoperative antibiotic and intravenous fluid therapy was uniformly successful in preventing the gastrointestinal hemorrhage, liver damage and death seen in normothermic control dogs following 60 minutes of aortic and portal venous occlusion
- 6 Large segments of liver were resected with great ease and low mortality during the period of vascular occlusion
- 7 Good results were obtained when vascular occlusion preceded cooling as well as when occlusion followed cooling
- 8 No cardiac complications or late wound bleeding were encountered.

The authors wish to express appreciation to the following

Captain Robert V. Schultz MC USN Mr William C. Young
members of the Audio-Visual Aids Section Bureau of Medicine
U S Navy for their help and cooperation in designing the exhibit

Mr Morton J. Kuff of Bizarre Creations Washington D C
for his job of exhibit construction

The Pulmonary C in Lesion A Harmless Looking Killer
S W FRENCH III M.D. ET AL BERKELEY and JEROME L
HANNON, Letterman Army Hospital, San Francisco

The patient was not in our view of the lungs and their unusual implications. All of these patients were on to thoracotomy and their diagnoses had been confirmed by histologic examination, which, and guinea pig inoculation. The high incidence of carcinoma in these lesions as in other studies reported by other authors is emphasized. Appropriate measures were taken for the removal of gross specimens removed at thoracotomy and the lungs.

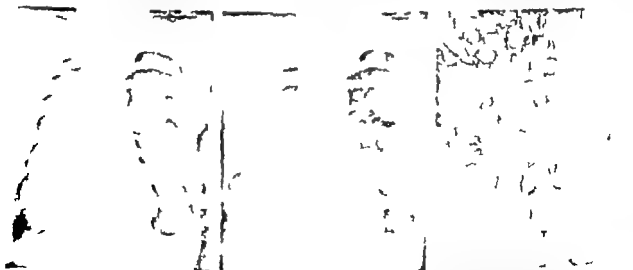
Squamous Cell Carcinoma



The lesion in July 1933, upper right; after the lesion had increased in size (see also X-ray of right upper lung).

This shows the lesion enlarging to ten times its original size in three months later in February 1933.

There has not been much progress in the lesion in May 1933, one month after the initial X-ray.



The lesion in July 1933, upper right; after the lesion had increased in size (see also X-ray of right upper lung).

This shows the lesion enlarging to ten times its original size in three months later in February 1933.

There has not been much progress in the lesion in May 1933, one month after the initial X-ray.

Undifferentiated Carcinoma



A rounded, transcribed lesion overlying the right orbit anterior rib. 67-year-old male who had no symptoms. Tumor later thoracotomy was advised.



The lesion four months later when the patient consented to operation. An undifferentiated carcinoma was completely resected. No recurrence 30 months after thoracotomy.



Undifferentiated carcinoma of the right upper lobe.



A transcribed lesion in the upper left lung field in 64-year-old white male who was asymptomatic.



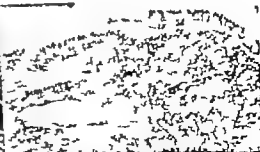
51 weeks later shortly before thoracotomy. The tumor had grown to the chest wall. A palliative lobectomy was performed. The patient died 6 months later.



Carcinoma epithelium lines the bronchi above. The undifferentiated carcinoma seen below.

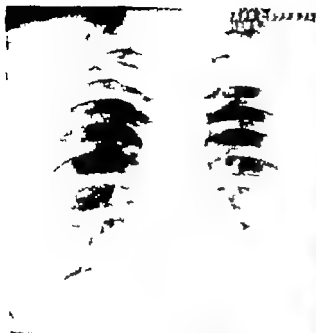


The carcinoma seen at center



Carcinoma epithelium lines the bronchi above. The undifferentiated carcinoma immediately beneath the bronchial epithelium infiltration of carcinoma around bronchial cartilage.

Tuberculoma



A isolated lesion overlying the sixth vertebral level in the lower left lung field of 40-year-old white female who was asymptomatic.



The lesion is located overlying vertebrae above the level of the diaphragm.



Acid-fast bacilli in tissue taken from the lesion during thoracotomy.



A granuloma tubercle at upper, center and on one of fibrotic and caseation below.



Gross lesion removed at thoracotomy by resection.

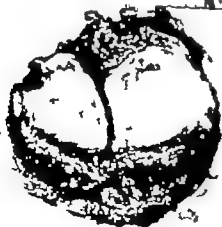
Coccidiomycosis



Lesion in the fourth anterior interspace on the R I in 22-year-old white male without symptoms.

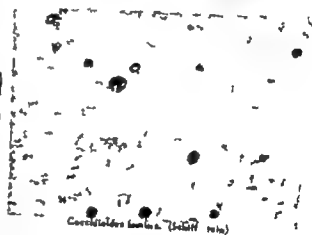


Tomography does not indicate calcification within the lesion.



L A H
77960

The gross lesion excised by wedge resection.



Coccidioides immitis (Schiff stain)



The organism is easily demonstrated in upper center

Histoplasmosis



Fig. 1. The lower right lung field in 24-year-old white male who was asymptomatic.



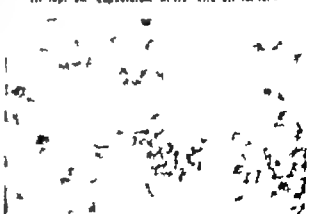
The lesion clearly demonstrated on this left anterior oblique view.



Grossly the lesion of the right lung most likely represents the lesion of the lung.



High magnification view of the lesion in its early form.



High magnification view of the lesion in its late form.

Chronic Non Specific Granuloma



Lesion in the right upper lung field of 40-year-old white male. Throat symptoms.



Tomography did not reveal the presence of calcium.



Gross lesion as removed at wedge resection.



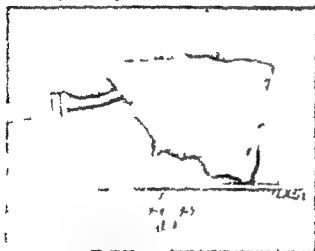
Lung parenchyma at upper right, the granulomatous inflammation is seen below. All slides in this case show granulomatous inflammation.

Pulmonary Arterio-venous Fist

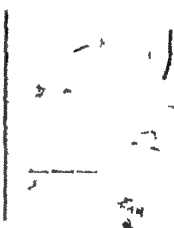


Secondary lesion in left lower lung field of 30-year-old white male with hemoglobin 16.7 gm. and slight swelling of the fingers.

Tomography reveal absence of 1st



The gray appearance of the lesion on the normal aspect of the lung after its removal

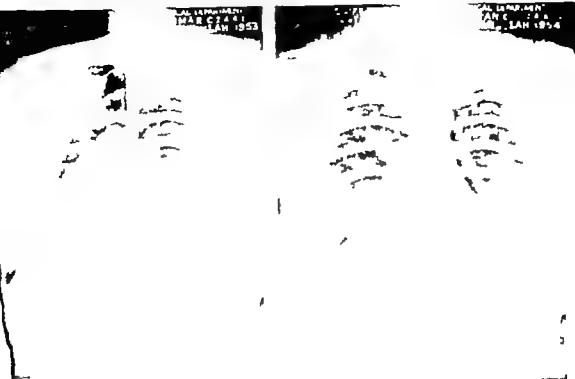


This demonstrates the absence of artery

Ch Metastasis from Adenocarcinoma of Colon

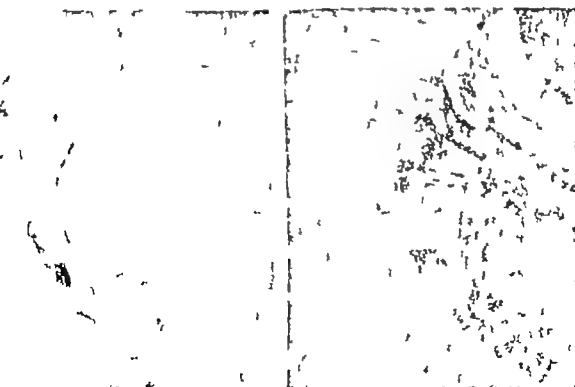
LAL (APPROXIMATE)
12AR 02486
LAN 1953

LAL (APPROXIMATE)
12AR 02486
LAN 1954



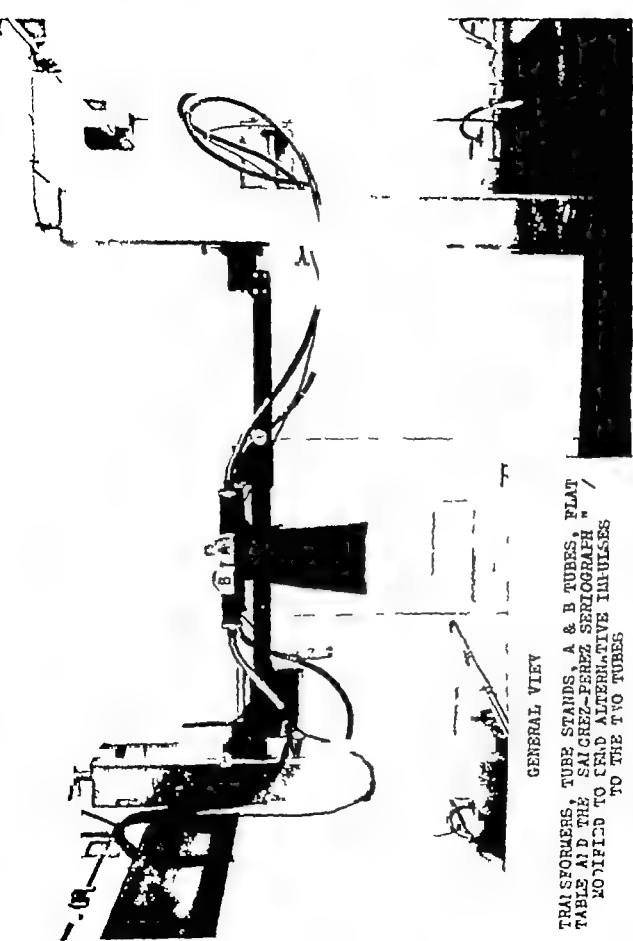
Small nodule in lower left lung of 48-year-old male, four years after colectomy for carcinoma of the colon.

Ten months later the lesion has become larger.



Low power view of the primary tumor is reproduced here.

Higher power view of lung metastasis.



GENERAL VIEW

TRANSFORMERS, TUBE STANDS, A & B TUBES, FLAT
TABLE AND THE SAICREZ-PEREZ SERIOGRAPH " /
MODIFIED TO SEND ALTERNATIVE IMPULSES
TO THE TWO TUBES





COMPLETE STEREOSCOPIC CEREBRAL ANGIOGRAPHY
MENINGIOMA OF THE TEMPORAL FOSSA

FOR THE PERCUTANEOUS INJECTION OF 5 cc OF CONTRAST
EXPOSURES WERE TAKEN IN 4.5 SECONDS EXP 1/50

THE SANCHEZ-PEREZ SERIOMAP
SENDS ALTERNATING IMPULSES TO 1 2 3

Simplified Method of Cerebral Angiography

MAURICE I. SILVER, Providence, R. I.

The principles of angiographic visualization of the cerebral circulation are illustrated, along with a technique that permits use of the procedure in any x-ray department, without the need for special or expensive equipment. The method is performed by a single operator using standard needles, adaptors, and syringes, with irrigation of normal saline solution through a special four-way stopcock that permits continuous contact with the arterial circulation through a closed system. Employment of this technique is described in 800 cases without complication attributable to angiography.

The principles of angiographic visualization of the cerebral circulation are illustrated, along with a technique that permits use of the procedure in any x-ray department, without the need for special or expensive equipment. The method is performed by a single operator using standard needles, adaptors, and syringes, with irrigation of normal saline solution through a special four-way stopcock that permits continuous contact with the arterial circulation through a closed system. Employment of this technique is described in eight hundred cases without complication attributable to angiography.

Cerebral angiography is a simple, safe and rapid procedure that can be carried out in any x-ray department, and without involvement of the operating room. The examination is of proven value in a diagnosis of brain tumor, cerebral aneurysm, cerebral or carotid thrombosis, and subdural hematoma. In the latter condition, it is of particular value in that the diagnosis can be made reliably from the angiographic films without the need for proposing exploratory trephination.

The actual technique used is illustrated by a manikin in which the needle is inserted into the neck and connected with a rubber tube containing colored fluid. The method of aspirating blood from the carotid artery, maintaining the patency of the needle (#18 spinal) by irrigation with saline, and the injection of 35% diatrizoate available for direct handling by visitors to the exhibit. The injections are facilitated by the use of a special four-way stopcock (manufactured by Codman & Shurtleff Inc., Boston, Massachusetts) which permits all of the necessary withdrawals and injection without disconnecting from a closed system. The mechanism of action is diagrammed on the wall of the exhibit.

The procedure is also facilitated by the use of a short segment of clear polyethylene tubing (Angiotube—Abbott Laboratories, Chicago, Illinois) which permits visualization of the arterial blood and avoids the risk of injecting small lot of air bubbles.

The age distribution of the eight hundred cases in which this technique was employed are shown in a graph. The youngest patient was eleven months of age and the oldest patient 77 years. A list of *Do's* and *Don'ts* emphasizes that it is unnecessary to make an incision to perform the procedure; that the highest concentration of diatriz required is 35% and that every precaution should be taken to inject directly into the artery without dislodging the needle. Except for minor complications such as hematoma in the neck, and the burning sensation experienced by the patient with the procedure performed under local anesthesia, no significant complications (hemiplegia, aphasia, or death) were encountered.

The exhibit illustrates all of the major categories of cerebrovascular pathology demonstrated by this technique. A short film strip was also shown at regular time intervals to supplement the actual demonstration of the angiographic procedure.

Thymectomy in Myasthenia Gravis.

ROBERT S. SCHWAB BENJAMIN CASTLEMAN, OLIVER COFF
RICHARD SWIFT JAMES VANDERWYTT, and HENRY R.
VILES, Massachusetts General Hospital Boston.

This exhibit emphasizes the complete coordination and integration of the neurological and medical diagnosis, selection and preparation of patients for myasthenia gravis surgery, the preoperative surgical and anesthetic studies necessary, the anesthesia during the surgical removal of the gland or tumor, the specific surgical technique of the procedure, the immediate postoperative care and precautions, the pathological study of the specimen removed and interpretation of this, and the subsequent evaluation by the neurologist of the effect of such procedures on the remission of the disease. Mortality has been reduced from approximately 40% to less than 5%, the duration of the procedure from three hours to 50 minutes, the postoperative critical period from one week to 10 days, and the hospital stay from five to two weeks. Results in 170 patients show doubling of the remission incidence in females under 50, little benefit in males or elderly cases.

This exhibit shows the integrated team work of a group of specialists in the successful management of this difficult problem of therapy.

Since 1939 we have performed thymectomy on 125 patients with Myasthenia Gravis.

In the first ten, four died of post-operative complications, the procedure took three to four hours and the patients were critically ill for several days. As a result of our combined experience and the development of a specific technique of collaboration we have reduced the mortality to less than 4%, the procedure takes under an hour--the patients are awake and comfortable during the next hour--and are taking nourishment that evening.

SELECTION OF PATIENTS FOR THYMECTOMY

FOR CONTROLS

FOR THYMECTOMY

- | | |
|---|---|
| <p>I SHOULD CONTAIN:</p> <p>SAME DISTRIBUTION OF MILD AND SEVERE CASES</p> <p>SAME AGE</p> <p>SAME SEX</p> <p>SAME DURATION OF DISEASE</p> <p>II SHOULD <u>NOT</u> BE A MIXTURE OF ALL NON-SURGICAL CASES</p> | <p>I SHOULD BE FEMALE UNDER 35 FOR BEST RESULTS</p> <p>II SHOULD NOT HAVE HAD MYASTHENIA GRAVIS MORE THAN 5 YEARS</p> <p>III MUST BE REASONABLY STABILIZED ON DRUG (3 MOS.)</p> <p>IV MUST BE WELL ENOUGH ADJUSTED ON MEDICINE & IN GOOD ENOUGH PHYSICAL CONDITION TO RISK THE SURGICAL PROCEDURE</p> |
|---|---|

HISTORY AND PHYSICAL EXAMINATION

SYMPTOMS

- I OCULAR-TRANSIENT DIPLOPIA IN AFTERNOON AND EVENING**
INABILITY TO HOLD EYES OPEN (PTOSIS) SO HEAD MUST BE HELD BACK TO SEE, ESPECIALLY IN P M
NOTE HEAVY EYES FROM SLEEPINESS OR FATIGUE QUITE DIFFERENT WITH EFFORT EYES COME UP PROMPTLY WITH TRUE PTOSIS THIS IS IMPOSSIBLE
- II DYSPHAGIA-FIRST SWALLOW USUALLY ALL RIGHT-AFTER THAT RAPID ONSET OF DIFFICULTY-LIQUIDS RUN OUT OF NOSE-SOLIDS WILL NOT GO DOWN-CHOKING**
NOTE 'TIGHT FEELING IN THROAT, UNDER STERNUM-GAGGING- QUITE DIFFERENT FROM DYSPHAGIA OF MYASTHENIA GRAVIS
- III DYSARTHRIA-NASAL QUALITY TO SPEECH BELOW NORMAL INTENSITY-TENDENCY TO BE CLEAR AT FIRST THEN FADES OUT**
NOTE COMPLETE APHONIA NEVER SEEN IN M G -CEREBELLAR ATAXIC SPEECH-SING SONG TYPE-STUTTERING-WHISPER - HOARSENESS ARE NOT CHARACTERISTIC OF THE MYASTHENIC
- IV DIFFICULTY IN CHEWING-FIRST BITE IS MASTICATED THEN MUSCLE FAILS-THERE IS USUALLY DIFFICULTY KEEPING JAW CLOSED-HAND MAY BE USED TO HELP FREQUENTLY HEAD FALLS FORWARD THIS PATTERN RARELY SEEN IN OTHER NEUROLOGICAL DISORDERS**
- V. GENERAL WEAKNESS-COMBING HAIR, SHAVING START OFF ALL RIGHT, THEN MUSCLES FAIL SAME FOR WRITING WALKING-CLIMBING STAIRS THE EXHAUSTION IS LIKE PARALYSIS-NOT LIKE TIREDNESS FROM TOO MUCH WORK SINCE NORMAL FATIGUE CAN BE OVERCOME BY EFFORT**
- VI FUNDI & PUPILS NORMAL TENDON REFLEXES NORMAL & EQUAL FASCICULATIONS ARE ABSENT IN TONGUE, OTHER MUSCLES & THERE IS NO ATROPHY SENSORY TESTS ARE NORMAL PYRAMIDAL TRACT SIGNS ARE ABSENT PAIN IS NOT A SYMPTOM**

DIAGNOSIS OF MYASTHENIA GRAVIS

I NEOSTIGMINE I M TEST

DETERMINE OBJECTIVE SIGNS WHICH CAN BE
EVALUATED SUCH AS INABILITY TO OPEN RIGHT EYE

USE 0.6 I M ATROPINE

(OPTIONAL)

PROTECTS GI TRACT

SHOWS EFFECT OF NON-ANTIMYASTHENIC
SUBSTANCE (PLACEBO TEST)

AFTER 10 MINUTES USE 1.5 MG NEOSTIGMINE I M
15 MINUTES LATER

FOR POSITIVE TEST

NOTE DEGREE OF OBJECTIVE IMPROVEMENT OF SIGN (ABOVE
IF PRESENT WILL LAST 30 MINUTES

AGAINST POSITIVE TEST

IF IMPROVEMENT LASTS OVER 4 HRS. IT IS A FALSE POS.
CRAMPS IN EXCESS OR SEVERE SIDE REACTIONS (FASCICULATION

II I V TENSILON TEST

USE 5 MG TENSILON I V

IN 30 SECONDS IF NO ADVERSE REACTION USE 5 MG. MORE
(10 MG IN ALL)

IMPROVEMENT OCCURS IN 1 MINUTE AND LASTS 10 MINUTES

III ORAL TRIAL OF NEOSTIGMINE OR MESTINON

MAY BE USED TO CONFIRM DIAGNOSIS--AND EVEN A
PLACEBO TRIAL

A DOUBTFUL TEST MUST BE REPEATED

PRE-OPERATIVE MANAGEMENT

- A. THE PATIENT SHOULD BE ADMITTED TO THE HOSPITAL FOR SURGERY A FEW DAYS BEFORE THE PROCEDURE SO THAT

- 1) SOME OBJECTIVE TESTS CAN BE DONE TO INDICATE HIS PERFORMANCE
- 2) A 24-HOUR PERIOD OF PARENTERAL ADMINISTRATION OF DRUGS USING 1/30 OF THE ORAL AMOUNT IN MC FOR IM INJECTION THE IM SHOULD BE GIVEN AS OFTEN AS THE ORAL MEDICATION IS TAKEN
- 3) PATIENT CAN BE TRIED IN A RESPIRATOR AS A PRECAUTIONARY MEASURE SO THAT IF AN EMERGENCY ARISES THE APPARATUS WILL BE FAMILIAR

NO ONE SHOULD UNDERTAKE THIS TYPE OF SURGERY WITHOUT THE FOLLOWING AVAILABLE FOR POST-OPERATIVE EMERGENCIES:

I AT BEDSIDE

- 1 LARYNGOSCOPE
- 2 ENDOTRACHEAL TUBE
- 3 PROSTIGMINE

II ON THE FLOOR:

- 1 THORACENTOMY SET
- 2 TRACHEOSTOMY

III IN THE HOSPITAL:

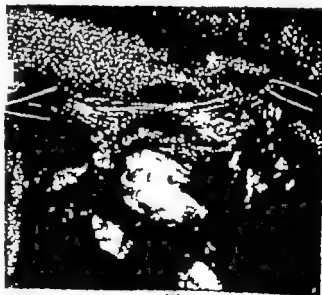
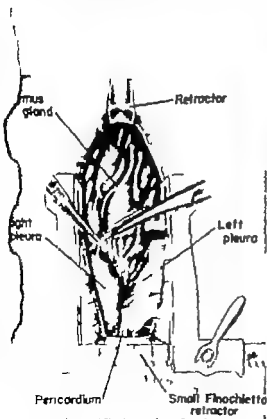
- 1 ANESTHESIA MACHINE ON POSITIVE PRESSURE RESUSCITATION
- 2 MECHANICAL VENTILATION

It is essential to approach the mediastinum through a midline division of the sternum and not from the lateral or posterior aspect. Since the thymus lies directly beneath the sternum with lobes that extend down and up complete removal of the entire gland cannot be done except through the anterior approach. This is true even when a thymoma is present. It is not necessary to split the entire sternum but the splitting should run from the sternal notch

to 1/2 inch to a rapid

IMPORTANT POINTS IN THE ANESTHETIC TECHNIQUE ARE

- A continuous intra-venous infusion of prostigmin running during the surgery at a rate simulating the I M dosage calculated previously
- 2) No respiratory depressants are used as premedicants (opiates barbiturates) Atropine only is given to control secretions
 - 3) Rapid induction with cyclopropane, topical cocaineization of the airway and endotracheal intubation.
 - 4) Maintenance in light anesthesia with assistance or control of respiration by the anesthetist
 - 5) A small I.V. and I.M. dose of an analgesic prior to the end of anesthesia to control post-operative pain
 - 6) Quick recovery from anesthesia so as to permit rapid resumption of an adequate respiratory exchange and early return to oral medication



SPECIMEN REFLECTED FROM WOUND

PRE-OPERATIVE MANAGEMENT

- A THE PATIENT SHOULD BE ADMITTED TO THE HOSPITAL FOR SURGERY A FEW DAYS BEFORE THE PROCEDURE SO THAT

- 1) SOME OBJECTIVE TESTS CAN BE DONE TO INDICATE HIS PERFORMANCE
- 2) A 24-HOUR PERIOD OF PARENTERAL ADMINISTRATION OF DRUGS USING 1/30 OF THE ORAL AMOUNT IN MG FOR IM INJECTION THE IM SHOULD BE GIVEN AS OFTEN AS THE ORAL MEDICATION IS TAKEN
- 3) PATIENT CAN BE TRIED IN A RESPIRATOR AS A PRECAUTIONARY MEASURE SO THAT IF AN EMERGENCY ARISES THE APPARATUS WILL BE FAMILIAR

DO NOT SHOULD UNDERTAKE
THE TYPE OF SURGERY WITHOUT
THE FOLLOWING AVAILABLE FOR
POST-OPERATIVE EMERGENCIES:

I AT BEDS

- 1 LARYNGOSCOPE
- 2 ENDOTRACHEAL TUBE
- 3 LARYNGOSTIGMINE

II ON THE FLOOR:

- 1 THORACENTESIS SET
- 2 TRACHEOSTOMY

III IN THE HOSPITAL:

- 1 ANESTHESIA MACHINE OR POSITIVE PRESSURE RESUSITATOR
- 2 MECHANICAL RESPIRATOR

It is essential to approach the mediastinum through a midline division of the sternum and not from the lateral or posterior aspect. Since the thymus lies directly beneath the sternum with lobes that extend down and up, complete removal of the entire gland cannot be done successfully except through the anterior approach. This is true even when a thymoma is present. It is not necessary to split the entire sternum to the xyphoid but the splitting should run from the sternal notch one-fifths of the way down.

The surgeon's contribution to the total care in addition to a rapid mediastinotomy and removal of the gland, lies in the closest possible cooperation with the neurologist and anesthetist in supervision of the post-operative period. He must be ready to undertake surgical measures to help maintain a clear airway (bronchoscopy, tracheostomy).

IMPORTANT POINTS IN THE ANESTHETIC TECHNIQUE ARE

A continuous intra-venous infusion of prostigmin running during the surgery at a rate simulating the I.M dosage calculated previously

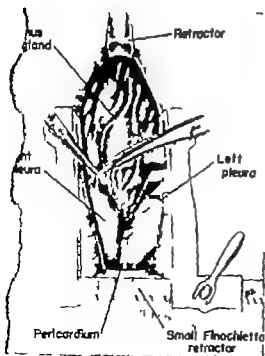
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6) Quick recovery from anesthesia so as to permit rapid resumption of an adequate respiratory exchange and early return to oral medication



SPECIMEN REFLECTED P

THYMIC HYPERPLASIA IN MYASTHENIA GRAVIS

APPROXIMATELY 15 PERCENT OF PATIENTS WITH MYASTHENIA GRAVIS HAVE TRUE NEOPLASMS OF THE THYMUS GLAND--TUMORS THAT WE PREFER TO CALL THYMOMAS OF THE 4. REMAINING PATIENTS ABOUT 20 PERCENT HAVE THYMUS GLANDS THAT, SO FAR AS CAN BE DETERMINED GROSSLY AND MICROSCOPICALLY, ARE COMPLETELY WITHIN NORMAL LIMITS, SHOWING VARYING DEGREES OF INVOLUTION THE OTHER 80 PERCENT HAVE ABNORMAL THYMUS GLANDS MICROSCOPICALLY, ALTHOUGH THE GROSS APPEARANCE AND WEIGHTS OF THE GLANDS ARE USUALLY WITHIN NORMAL LIMITS (FIG 1)

MICROSCOPICALLY, THE STRIKING FINDING IN THE THYMUS GLAND OF THESE 80 PERCENT IS THE PRESENCE OF GERMINAL CENTERS IN THE MEDULLA (FIG 2)--GERMINAL CENTERS THAT ARE EXACTLY LIKE THOSE OBSERVED IN ANY LYMPH NODE (FIG.3)



**FIG 2 LOW POWER PHOTOMICROGRAPH
SHOWING ABSENCE OF INVOLUTION
NUMEROUS LYMPH FOLLICLES WITH
GERMINAL CENTERS IN MEDULLA AND
COMPRESSION OF CORTEX**



FIG 23 HIGHER MAGNIFICATION OF A TUMOR SHOWING A MIXTURE OF SPINDLE-SHAPED CELLS WITH LYMPHOCYTES

FIG 10 A RE-
THYROID
THE THYROID
BANDS
ON SCHEM
DEMONS



FIG 22 SPINDLE-SHAPED CELLS SIMULATING CONNECTIVE TISSUE STROMA

stress electroencephalographic brain pathology with long-term leading to the mid-stage, was, as hard to diagnose by light as pragmatic and treat-

logy

WILL FILCHMAN, Montefiore

over 5,000 patients who were therapy. Charts and diagrams the effectiveness of pharmacology on the patient and the patient on the drug; (3) description of the specific headache antiepileptic post-traumatic, and brain- (4) an appraisal of drugs in

ram Administration Hospital.

the special problems of psychiatry should be general medical practice, and the need for further efforts understanding between psychiatrists and

the institutional

RE. M. ROSENBERG Columbus, Ohio.

of clinical evaluation of chlorazepate individuals at the Columbus acts of their response on the hospital, the drug produced significant. In terms of hospital administration, property, less need for "accuracy" supervision to active medical and with these patients. It meant routine therapy and less time of trouble.

studies.

WOLANIN, Western Reserve
Lipson and City Hospital

serial air studies and ex-
planatory diagnostic x-rays

in syndrome presented. The results of medical and surgical therapy is outlined, and drawings

Journal of Anxiety

H. F. FARRER, PAUL D. SULLIVAN,
LA, District of Columbia General
ton, D. C.

rate the physiology and clinical effectiveness withdrawal derivative in the management of. The conditions that are demonstrated include alcohol withdrawal syndrome, (2) disturbed (3) narcotic addicts experiencing withdrawal

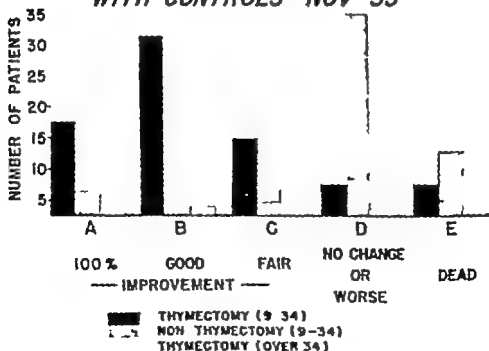
CRITERIA FOR EVALUATING RESULTS OF THYMECTOMY

1. TRY TO GET PRE-OPERATIVE PATTERN STABILIZED OR FREE OF REMISSIONS FOR 6 MONTHS
2. IN POST-OPERATIVE COURSE WE DO NOT RECOMMEND OR INCLUDE FOR THE NEXT 6 MONTHS ANY MARKED ALTERATION IN THERAPY EXCEPT FOR INCREASE OR DECREASE IN AMOUNT OF MEDICINE
3. LOOK FOR CLEAN CUT REMISSION EITHER PART OR COMPLETE WITHIN FIRST 12 MONTHS POST-OPERATIVE CLASSIFIED AS
 - A -- 100% IMPROVEMENT (NEEDS NO MEDICINE AND HAS NO SYMPTOMS)
 - B -- GOOD IMPROVEMENT (SIGNIFICANT REDUCTION IN MEDICINE & MILDEN SYMPTOMS)
 - C -- FAIR OR SLIGHT IMPROVEMENT (MOSTLY SUBJECTIVE)
 - D -- NO CHANGE OR WORSE
 - E -- DEAD FROM COMPLICATIONS OF MYASTHENIA GRAVIS

CRITERIA FOR EVALUATING CONTROLS

1. REMISSION MUST NOT BE THAT DUE TO INITIAL ADJUSTMENT ON THE TAPY OR SUBSEQUENT READJUSTING OF THERAPY SINCE SURGICAL CASES WILL HAVE THIS AS WELL
2. REMISSION MUST BE SUSTAINED FOR ONE YEAR MUST BE CLEAR CUT & SPONTANEOUS THAT COMES SUDDENLY OR GRADUALLY OVER A YEAR PERIOD
3. DEATHS THAT CHANGE EVALUATION RATE MUST BE DUE TO M G OF CONTRIBUTED TO BY MYASTHENIA GRAVIS NOT DUE TO TRAUMA OR OTHER CRISIS OR DISEASE

RESULTS OF THYMECTOMIES IN FEMALES AS COMPARED WITH CONTROLS - NOV '55



The Clinical Value of Frog and Toad Pregnancy Tests.

EDWARD H. H. S. and JOHN McI. MARR, Yale University
School of Medicine, New Haven

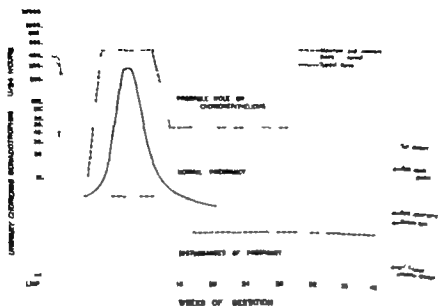
The exhibit consists of photomicrographs, drawings, and posters that show the ideal equipment for the accurate hormonal diagnosis of pregnancy. The reasons for false positive and false negative reactions when determined by frog and toad at post-yield in the aid of chorionic gonadotropin are shown. A system of pregnancy testing that is accurate for the diagnosis of pregnancy and of value in the disturbances of pregnancy is also illustrated.

The use of male batrachians as test animals for the diagnosis of pregnancy has the advantage of speed, simplicity and economy. At the same time, however, they have been noted to be less accurate than the A-Z mouse or Friedman tests. These inaccuracies are largely due to the relative insensitivity of the batrachians and the seasonal variation in their sensitivity to chorionic gonadotrophin. Non-specific false positive reactions are also a source of error but this is small except when using male *Rana pipiens* in the spring.

The accuracy of the A-Z mouse or Friedman tests can be approximated if a larger volume of urine is used to compensate for this insensitivity. This required amount of urine is usually too large for direct injection and a concentration technique must be used. A testing system can be maintained at any desired sensitivity if the seasonal variation in test animal sensitivity is known and the appropriate aliquot is concentrated. This can be readily accomplished with the simple rapid adsorption-filtration technique used in our laboratory and previously described.

There is some evidence that in the disturbances of pregnancy a pathologically low chorionic gonadotrophin titer is definitely related to poor prognosis and the use of quantitative estimations of chorionic gonadotrophins in these conditions may be clinically useful.

THE HORMONAL DIAGNOSIS OF PREGNANCY



CHORIONIC GONADOTROPHIN LEVELS IN NORMAL PPL. (AND THE SENSITIVITY OF VARIOUS PREGNANCY TL

COMPARISON OF TYPICAL TEST

	<i>R. pipiens</i>	<i>B. americana</i>
SPECIFICITY	100%	100%
SENSITIVITY	100%	100%
END POINT	good	good
REACTION	4 h	4 h
ECONOMY	good	good
AVAILABILITY	good	good

Version and Extraction.

FREDERICK H. FALLS and CHARLOTTE S. HOLY University of Illinois College of Medicine and Illinois State Department of Public Health, Chicago.

The exhibit consists of drawings, charts, and life-sized medical sculptures in full color in frontal section depicting in three dimension the technique of external obstetric version, Brazovitch's version, and internal combined version. In addition, drawings and an x-ray demonstrate maternal and fetal pathology associated with these operations. Indications and contraindications and the selection of operation are discussed.

Transvaginal Pudendal Nerve Block.

PRESTON LEA WELLS and MISTON L. MCCALL Louisiana State University School of Medicine New Orleans.

This exhibit presents new technique for pudendal nerve block. It replaces the conventional perineal injections by single transvaginal injection directly into the vaginal orifice and the sacrospinous ligament at the point where they cross the pudendal nerve. A model illustrates the ease of the procedure. The results of 150 pudendal blocks with the new technique demonstrate its reliability and safety.

Use of Chlorpromazine in Gynecological Surgery

WILLIAM D. CHAMBLIN and JOHN CORBIT JR. Philadelphia.

The exhibit summarizes experience with chlorpromazine as an adjunct in gynecologic surgery. A controlled study of hysteromastoidectomy, one half of the group received the drug preoperatively by intravenous drip in addition to other sedation as needed. The chlorpromazine-treated patients demonstrated sharp reduction in need for narcotic, postoperative intestinal distention was markedly reduced, no vomiting occurred, and recovery time appeared to be significantly hastened. The exhibit illustrates the technique, the findings, and the implications of the study and summarizes the investigator's subsequent experience with the drug.

Local Infiltration Versus Pudendal Block Anesthesia in Obstetrics and Gynecology

EDWARD W. ALDRE and GORDON T. BURKE Rockford Memorial Hospital, Medical Clinic of Rockford, Rockford, Ill.

The exhibit (1) reviews the significant anatomy of the perineum and pudendal nerve (2) compares the technique and results obtained with both local infiltration and pudendal block anesthesia, comparing method of using local infiltration in the perineum without causing edema and distortion of tissues and contrasting one shot pudendal nerve block, and (3) summarizes the reports of three-year study of over 300 obstetric and gynecologic cases. Patient models are used for demonstration purposes.

Transcervical Rectotomies in the Uterine Canal.

W. B. NORMENT and C. HENRY SAGER Greensboro, N. C.

The exhibit shows resection of polyps and submucosal fibroids of cervix and uterus through the cervical canal (principles in similar to prostatic resection with different type of instrument). Many hysterectomies have been avoided.

Plasmamicroscopy in Office Cancer Screening.

M. EDWARD DAVIS and GEORGE L. WERN University of Chicago the School of Medicine, Chicago.

The exhibit demonstrates the value of plasmamicroscopic examination of fresh cytological smears for pre-screening of smears to select precursors and for special examinations in the cytology laboratory. A simple method is outlined showing how the gynecologist can eliminate great majority of the so-called completely normal smears, thus leaving approximately 30% of the specimens for evaluation in cytology laboratories. The value of immediate repeat smears in special cases, such as the examination of smears washings of women after hysterectomy for cancer, is demonstrated. Finally the value of plasmamicroscopy in the study of the hormonal changes in vaginal cytology is presented.

Biodynamic Study of Uterovaginal Infections: Differentiation Between Tidal and Uterine Oscillations.

JOHN STAVORICK, CARL G. MARTMAN, L. C. RIBBE, and GEORGE D. RICHARDSON Ortho Research Foundation, Raritan, N. J.

In this exhibit kymographic and discursive records show that the uterine almost certainly play no part in causing the infections. Certain purely mechanical features of the records are pointed out. Apparent and before used in such studies are demonstrated. The nature of the evidence for mechanical recording of pressure changes and strain groups and records for electrode recordings.

Ichthyomeres and Trichomonads.

R. V. CHAFFIN and ALFRED B. HUFFENBERG Ortho Research Foundation, Raritan, N. J.

The exhibit portrays the growth and morphology of Trichomonads agglutins. It depicts the remarkable characteristics of Ichthyomeres and trichomonads and compares to the clinical manifestations of the disease. The findings criteria for use as reported in kymographic, clinical cure. Comparative data demonstrate the relative virulence of species and vaginal therapy.

Surgical Management of Carcinoma of the Cervix.

JOSEPH W. KELSO and JOSEPH W. FURNESS Oklahoma City.

The exhibit demonstrates the indications for surgical management of carcinoma of the cervix, from diagnosis to treatment, whether with the above results of the operation, in years or more. It is shown the results with cases which had carcinoma of the cervical stump or of the cases with carcinoma of the cervix complicated by pregnancy.

Therapeutic and Diagnostic Uses of Adrenal Corticoids in Gynecology

HERBERT SPENCER BUTTERMAN, JEANNE A. EMERY, MIRTH E. BLATT and LEE V. ORANGE New York L. M. V. College of Medicine New York.

There is an ever-increasing demand for the use of corticoids in gynecology. The interrelationship between the primary adrenal cortex and ovary has increased. Aberrations of adrenal cortical function and its influence upon the primary ovarian are described. The points in the use of the corticoids in administration of menorrhagia, changes in ovulatory function, and certain manifestations of menopause are presented, and the pharmacology used to show progress is also outlined. The rationale for the use of the corticoids in the reproductive system is considered, and the comparative effects of pure corticoid, androsterone and progesterone in therapy is analyzed.

Aids to Subnormal Vision.

DAVID VOLK, Western Reserve University School of Medicine, Cleveland.

The exhibit consists of a group of telescopic and microscopic spectacle lenses of original design, some of which are inserted in spectacle frames. The lenses, which may be composed of either two or three components, are especially designed for compactness and at the same time designed to correct spherical and chromatic aberrations and curvature of the field, distortion, and marginal astigmatism. Diagrams showing the optics of the lenses are part of the exhibit.

SUBNORMAL VISION

REDUCED CENTRAL ACUITY
DESPITE REFRACTIVE CORRECTION

COMPENSATED FOR BY OPTICAL DEVICES
WHICH PRODUCE ENLARGED CLEAR
RETINAL IMAGES

THESE INCLUDE

MICROSCOPIC LENSES
STRONG PLUS LENSES FOR NEAR

TELESCOPIC LENSES
FOR DISTANCE
FOR NEAR

ABERRATIONS

OF SPHERIC MICROSCOPIC LENSES

ALL INCREASE TOWARDS EDGE OF LENS

CURVATURE OF THE FIELD
DUE TO LATERAL OVERCORRECTION

MARGINAL ASTIGMATISM
DUE TO OBLIQUE INCIDENCE OF LIGHT RAYS

DISTORTION
TRANSVERSE FLAT FIELD APPEARS 'PINCHPOINTED'
LONGITUDINAL FLAT FIELD APPEARS 'CONCAVE'

CHROMATIC ABERRATION
TRANSVERSE RAINBOW LIKE BLUR AT BORDERS

ABERRATIONS RESULT IN DISTORTED BLURRED LATERAL
VISION LIMITING USABLE LENS TO SMALL CENTRAL AREA

MAGNIFY

OF

... in Office Cancer Screening.
AND DAVIS and GEORGE L. WIRD, University of
Chicago, the School of Medicine Chicago.

... demonstrates the value of photomicroscopic examinations
... for processing of specimens as often procedure
... examinations in the cytology laboratory. A simple method
... how the cytologist can eliminate most majority
... completely normal specimens, thus leaving specimens
... extreme for evaluation in cytology laboratories. The value
... studies in specific cases, such as the examination
... of wound after physical surgery for cancer, is demon-
... the value of photomicroscopy in the study of the
... in vaginal cytology is presented.

... study of Uterotubal Insulation:
... Between Tubal and Uterine Oscillation.

... AVORKE, CARL G. HARTMAN, L. C. RUDIN, and
... DON D. RICHARDSON Ortho Research Foundation,
... an, N. J.

... photomicrographic and electronic records show that the most
... TR... in causing the destruction. Certain part
... records are pointed out. Asymmetry and
... 4% FOR EACH... demonstrated the weak point sym-
... of previous change and some part
... changes.

... is.
... D. B. AUSTENBERG, Ortho Re-
... an, N. J.

... morphology of Tribromu-
... effects of the homocysteine and
... modifications of the deuter-
... asymmetrical, clinical con-
... section area of system and

HYPERBOLOID LENS

GRADUAL REDUCTION IN POWER
FROM CENTER TO EDGE



- ELIMINATES CURVATURE OF FIELD
- ELIMINATES DISTORTION
- ELIMINATES MARGINAL ASTIGMATISM
- REDUCES CHROMATIC ABERRATION
- ENLARGES THE FIELD OF VIEW
- ARE THINNER AND LIGHTER
- CAN BE MADE IN LARGER DIAMETERS
- THAN EQUIVALENT SPHERIC LENSES
- CAN BE COMBINED WITH ADDITIONAL LENSES
- INS SYSTEMS

LOCATION

USES

Aids to Subnormal Vision of the Eye
 DAVID VOLK, INC. OF THE
 cine, Cliche EYEPIECE

The exhibit consists
 lenses of original & new
 frames. The lenses, for
 eyeglasses, are espe-
 cially designed to cor-
 rect curvature of the field
 and eliminate the optical

SUBNORMAL

VISION

APPLIES TO TELESCOPES SECTION INCORPORATED

ABERRATIONS

OF TELESCOPIC LENSES

PROPER LENS CURVATURES
 REDUCE OR ELIMINATE

CURVATURE OF THE FIELD
 DISTORTION
 MOVEMENT OF THE FIELD
 TILTING OF THE FIELD

CROWN GLASS OBJECTIVE
 AND FLINT GLASS EYEPIECE

CORRECTS CHROMATIC ABERRATION FOR ALL
 DIRECTIONS OF GAZE WHEN CENTER OF
 ROTATION OF EYE LIES ON OPTIC AXIS OF
 TELESCOPE

HYPERBOLOID LENSES

CAN BE USED AS A READING CAP WHEN DISTANCE
 TELESCOPE IS USED FOR VERY NEAR WORK
 SHOULD BE USED AS THE OBJECTIVE ON A TELESCOPIC
 LENS USED ONLY FOR VERY NEAR WORK

ABERRATIONS

OF TELESCOPIC LENSES

ALL INCREASE AS EDGE OF LENS IS APPROACHED

CURVATURE OF THE FIELD
 POSITIVE LATERAL OVERCORRECTION
 NEGATIVE LATERAL UNDERCORRECTION

DISTORTIONS
 TRANSVERSE "PINCUSHIONING" AND "BARREL"
 LONGITUDINAL "CONCAVING" AND "CONVEXING"

MOVEMENT OF THE FIELD
 OPPOSITE TO DIRECTION OF HEAD MOVEMENT

TILTING OF THE FIELD
 AROUND HORIZONTAL AND VERTICAL AXES

CHROMATIC ABERRATION
 TRANSVERSE RAINBOW-LIKE BLUR AT EDGES

ABERRATIONS RESULT IN A MARKED DEGREE
 MOVING AND TILTING EYEPIECE MUST BE
 GENERAL WEAR EXTREMELY DIFFICULT

QUALITIES

OF TELESCOPIC SPECTACLES

USEFUL MAGNIFICATION
 WIDE CLEAR FIELD

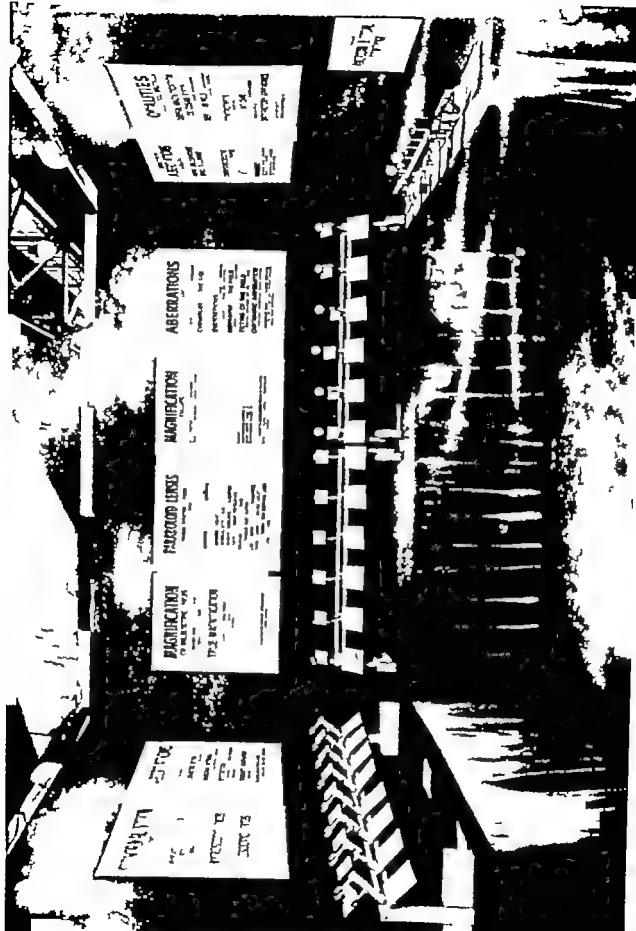
DEEP CLEAR FIELD
 PERMITTING ACCOMMODATION FOR
 TO ACT OVER A LARGER RANGE

COMPACTNESS
 ENABLES WIDER AND DEEPER CLEAR FIELD

LIGHT WEIGHT
 ACHIEVED BY USING A NEW KIND OF
 RELATIVELY LOW POWER LENSES

SATISFACTORY APPEARANCE

THE DESIRED QUALITIES CAN BE ACHIEVED IN
 MAGNIFICATIONS BETWEEN 1.5X AND 17X



Retinopathy in Diabetes A Thirty-Year Clinical Survey

ROBERT C. HARDEN, T. L. JORDENTON, HELEN G. KELLEY
and H. B. OGBLER, University Hospitals, Iowa City
Iowa.

The exhibit is composed of photographs, charts, and graphs depicting the development and progression of retinopathy in a group of juvenile diabetic patients whose duration of disease ranges from 10 to 30 years. These patients have been under observation throughout their entire clinical course, and analysis of data shows that retinopathy is a preventable complication of diabetes and not an inevitable associated phenomenon.

The Newer Corticosteroids in Ophthalmology

JORDAN HARRY KNOX JR., Washington Clinic, and JACK W.
FARMACHIS, Ocular Research Unit, Walter Reed Army
Medical Center, Washington, D. C.

This exhibit shows the application of corticosteroid therapy in ocular disease, emphasizing the newer steroids prednisone and prednisolone. Contraindications and adverse reactions are noted for certain conditions. General information is confined to hormonal steroids in ophthalmology. The indications and contraindications are listed and are illustrated by selected other preparations. The routes of administration and dosage are tabulated types. The exhibit is intended to summarize the latest knowledge for the general practitioner and the specialist in applying corticosteroid treatment in ophthalmology.

Gonioscopy

HAROLD G. SCHERZ, WILLIAM C. FRAYER, JULIA LLOYD,
MARIE WILSON, and MARK KERN, Hospital of the
University of Pennsylvania, Philadelphia.

The gonioscopic appearance of the angle of the anterior chamber of normal and abnormal eyes is illustrated from artist's drawings. Normal variations are presented. The clinical value of gonioscopy in early ophthalmologic practice is illustrated in the diagnosis of keratic lesions of the anterior chamber. Tumors of the iris and ciliary body, glaucoma and management of glaucoma including primary congenital and secondary types.

Cataracts in Vitamin-E-Deficient Turkey Embryos

R. H. RUDOM, University of Texas Medical Branch, Galveston,
J. R. COCKE and T. M. FAROUK, A&M College,
College Station, Texas.

The pathological changes occurring at the eyes of turkey embryos

are shown. The eggs were obtained from vitamin E-deficient hens. The primary lesion occurs at the lens. There is complete opacification of the lens in many of the birds. In few of the deficient embryos the cornea is edematous, and sometimes calcium deposits are present. The histological changes that precede the complete destruction of the lens are shown.

Survey of Pathogenesis and Treatment of Retinal Vessel Occlusions

BERTHA A. KLEIN, University of Chicago, the School of
Medicine, Chicago.

The exhibit presents transparencies of clinical and histopathological pictures of retinal vessel occlusions of various types of pathogenesis and the suggested treatment, together with charts showing detailed description of typical cases and analysis of group of 50 patients.

Amblyopia

MARIE WILLIAMS, American Association of Orthoptic Tech-
nicians, Dover

Charts and photographs show early recognition and treatment of amblyopia.

Modern Therapy of Uveitis

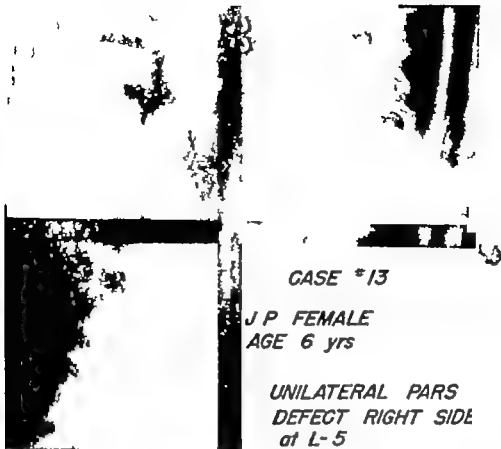
DAN M. GOLDSON, New York Hospital-Cornell Medical
Center, New York.

The exhibit shows the treatment of acute, recurrent, and chronic uveitis (both anterior and posterior). The long-term treatment of chronic uveitis has been neglected subject in the literature. The management of recurrent and complicating situations is stressed. This exhibit deals with hormonal-corticoid therapy in the acute. Ambulatory treatment is stressed.

Herpetic Keratitis

SAMUEL J. KIMURA and PHILLIPS TRYGONSON, University of
California School of Medicine, San Francisco.

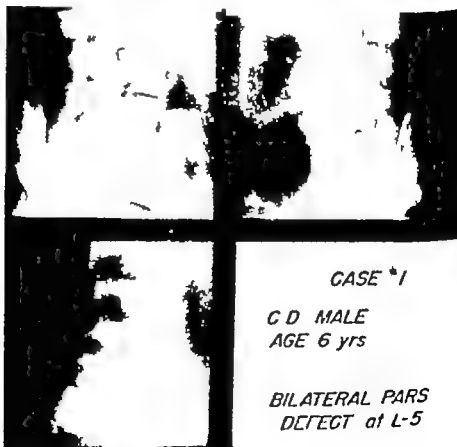
An analysis of herpetic keratitis and herpetocycloplegic agent at the University of California Medical Center during the past five years is presented. Subjects for analysis include: (1) clinical manifestations, (2) trigger mechanism, (3) clinical and laboratory diagnosis, (4) source of the virus, (5) visual complications, (6) results of therapy with special reference to the unfavorable effect of topical steroid therapy and (7) current research.



CASE #13

*J P FEMALE
AGE 6 yrs*

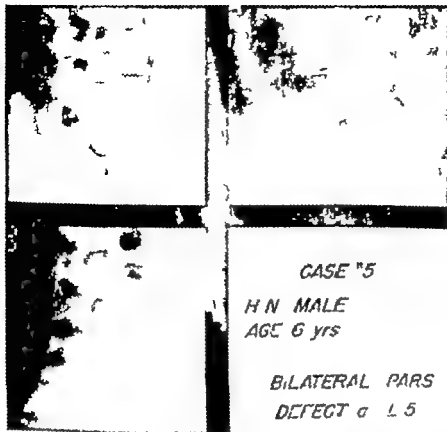
*UNILATERAL PARS
DEFECT RIGHT SIDE
at L-5*



CASE #1

*C D MALE
AGE 6 yrs*

*BILATERAL PARS
DEFECT at L-5*



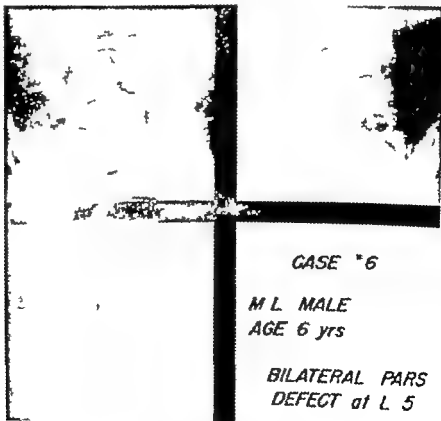
CASE "5

H N MALE

AGE 6 yrs

BILATERAL PARS

DEFECT at L 5



CASE "6

M L MALE

AGE 6 yrs

BILATERAL PARS

DEFECT at L 5



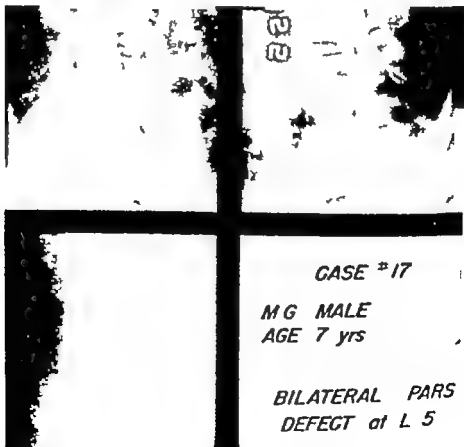
CASE #15

J R MALE

AGE 6 yrs

BILATERAL PARS

DEFECT of L 5



CASE #17

M G MALE

AGE 7 yrs

BILATERAL PARS

DEFECT of L 5

A ROENTGEN SURVEY OF FIRST GRADE SCHOOL CHILDREN

Children Examined			PARENTAL INCIDENCE		
	number	per cent		Parents Examined	
				number	per cent
Males	225	56.25	Male	14 (1 deceased)	
Females	175	43.75	Female	15	
Total	400	100	Total	29	100
Positive Children			Positive Parents		
	number	per cent		number	per cent
Males	12	5.3	Male	5	35.7
Females	6	3.5	Female	3	20
Total	18	4.5%	Total	8	27.6%

SIBLING INCIDENCE

	number of families	total children	number of positive children	incidence
One parent positive	6	14	6	42.9%
Both parents positive	1	2	2	100 %
Neither parent positive	7	22	7	31.8%
Mother negative, father deceased	1	6	3	50 %
Total	15	44	18	40.9%

SUMMARY

1 The incidence of spondylolysis and spondylolisthesis in this group of 400 six to seven year old children is comparable to that obtaining in the adult population.

2 The sibling incidence in this small group of fifteen families is eight times greater than average

3 The parental incidence in fifteen families is six times greater than average

4 One family consisting of mother, father and two children were all positive

5 One family having a 50 per cent sibling incidence cannot be classified because one parent was deceased at the time this survey was conducted

Oblique Rotational Osteotomy

T. GORDON REYNOLDS and W. A. SCHARFFENBERG JR.,
College of Medical Evangelists, Los Angeles.

This exhibit presents method of correcting, simultaneously combined angular and rotational deformities in bone by an oblique rotational osteotomy that leaves postoperative union by permitting the cut surfaces to rotate in apposition. The essential problem in this procedure is the accurate determination of the osteotomy plane with its relation to (1) the amount of rotational deformity (2) the amount of angulation, and (3) the direction of the axis of the angulation or plane in which angular deformity lies. Six osteotomized bones are used in an actual demonstration of the procedure. These models are actuated by push-button electric motors.

Compression Neuropathy of the Median Nerve in the Carpal Tunnel.

GEORGE S. FRALEY and JAMES I. KENDRICK, Cleveland Clinic, Cleveland.

This exhibit demonstrates the syndrome of spontaneous compression of the median nerve at the wrist by the use of Kodachrome photographs of dissected specimens, findings at operation, and presentation of clinical data on cases followed for a period up to 31 years. The exhibit emphasizes the possible etiology of the condition—a chronic tenosynovitis involving the flexor synovia in the carpal tunnel. A simple diagnostic test (the wrist flexion sign) is shown. Surgical treatment by section of the transverse carpal ligament is demonstrated. The use of local injections of hyaluronase is also shown.

Arteriography of the Shoulder

WILLIAM R. SNEYD JR., GRAHAM A. KERNWICK, and ERIC L. ROSENBERG, Rockford Memorial Hospital, Rockford, Ill.

Indications and technique are shown, together with examples of the real arteriogram, incomplete and complete rotator cuff rupture, and dislocation of the elbow, tendon, and capsule.

The Effect of Compressions on the Growth of Epiphyseal Bone

L. J. STROUD, Ulica, N. Y. PAUL C. COLOMBO and R. S. BRADY Philadelphia, and GEORGE O. FREDERICK, San Luis Obispo, Calif.

The investigation is carried out to determine the effect of compression on the rate of growth of long bones, the force required to cause arrest of bone growth, and determination of whether bone would return to normal growth after protracted period of arrest. Rodent calve were used as experimental animals, and the exhibit includes the actual bones used, six mechanical devices in situ, X-ray films taken in the course of the work, charts and graphs are presented.

Functional Fixation of Intracapsular Fractures of the Hip.

W. K. MAXIE, Lexington, Ky.

The purpose of the exhibit is to demonstrate that femoral neck fractures will inevitably heal if (1) adequate immobilization of the fragments is obtained and maintained and (2) infection does not occur. In addition it is believed that the sequence of arthritis and avascular necrosis can be reduced if (1) full weight-bearing is postponed until bony union is complete and (2) the patient is reasonably cooperative in following postoperative precautions. Technical criteria include (1) proximal fragment placed in 90° flex. (2) telescoping nail-plate inserted

at 125 degrees with the shaft that is the weight-bearing axis of the femur and (3) inspection of the fragments at the time of surgery. Analysis is presented of 36 fractures fixed with telescoping nail-plate—16 fractures fixed with standard rigid nail for comparison.

Bone Tumors: Analysis of 2,276 Primary Neoplasms Seen at the Mayo Clinic 1905-1955.

D. C. DARLING, R. A. GROOMLEY, E. D. M. B. COVENTRY Mayo Clinic and Rochester, Minn.

Accurate appraisal of tumors of bone demands clinical, roentgenologic, necrotic, and pathological classification most comprehensive with predictability and should not have unnecessary subdivisions of subtypes. The classification of bone tumors used in this is based on histopathology and relates tumors to (1) place the type of treatment depends on the basic pathologic cause history is imperative. This can be done readily as tumors contain soft tissues suitable for immediate diagnosis contains (1) graphic classification of all bones with the relative frequency of occurrence and incidence of each type (2) examples of each type, with its roentgenologic signs, gross and microscopic features, treatment; and (3) summary of neoplastic lesions must be considered in differential diagnosis.

Treatment of Hip Dislocation Associated with Fracture of Head or Neck of the Femur

GARRETT PIPER and DONALD K. PIPER, Kansas City

Hip dislocation with fracture of the head or neck of the femur was originally rare injury of heavy industry. It is now common on the increase due to modern traffic. The various types of the injury are classified according to their post-traumatic tendency that provides rational for treatment. Twenty-five hips in 24 cases with follow-up of 4 months to 18 years are analyzed. This material is the pooled experience of correspondence club and the orthopedic surgeon of greater Kansas City thirty years ago (1914). Characteristic view with regard to this injury: "The prognosis as to function is poor. Against this background the present series is contrasted. The rapidity in mortality and marked increase in satisfactory results are credit to modern orthopedic surgery.

Innervity of Short Thumbs.

ROBERT M. STECHER, Western Reserve University School of Medicine, Cleveland.

Short thumbs occur in children, poorly recognized but significant congenital hereditary anomaly in about 0.5% of the population, affects 11 major races, and are three times as common in women as in men. They have been recognized at birth, but they become more apparent as the child grows. They are associated primarily as bilateral characteristics of the thumb. The proportionate length of the proximal phalanx of the thumb to the distal phalanx varies from 1.95 to 2.45 in short thumbs and 1.15 to 1.65 in normal thumbs in the adult. In short thumbs in children the proportion may be as low as 1.68 at age 4, increasing as he advances to 15 years to levels functional thumb. The epiphyseal line of the proximal phalanx disappears two years earlier in the short thumb than the adult. The anomaly is inherited as recessive characteristic.

Treponema Pallidum Complement Fixation Test

HAROLD J. MAGNUSON and JOSEPH I. PI
 Service Department of Health Education and Welfare
 Bureau Washington D. C.

This exhibit describes the chemical fractionation of the *Treponema pallidum* antigen and serologically active antigen. The use of this antigen in complement-fixation test is illustrated and evaluation of this test procedure for the diagnosis of syphilis and in the differential diagnosis of syphilis and biological false positive serology is presented.

PREPARATION OF ANTIGEN

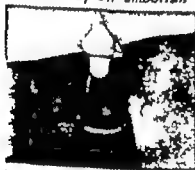
IN VIVO CULTIVATION OF T. PALLIDUM IN RABBITS



Sacrifice by air embolism



Testes removed and minced



Minced testes in serum



Elution of Treponemes



Supernatant decanted



Injection of 1×10^8 TP

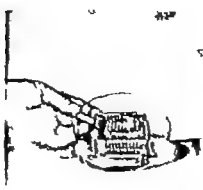


Syphilitic vs normal tests

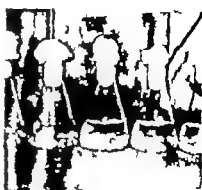
PREPARATION OF ANTIGEN ELUTION AND CONCENTRATION OF TREPONEMES



Testes dissected



Testes sliced with razor



Testes in eluting fluid



Flasks rotated 1 hour



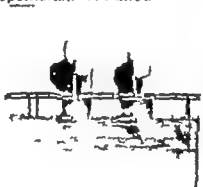
Supernatant decanted



Centrifuged at low speed



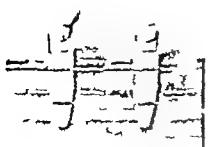
Centrifuged 20 000 G 1hr



Sediment saved



Sediment homogenized



Separation of red cells

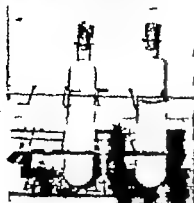


Second homogenization



Combining extracted
treponemes

EXTRACTION AND DISCARDING LIPIDS FROM TREPONEMES



Extract In Acetone - 1 hr



Sediment re-extracted



Dry powder after extraction

EXTRACTION OF SEROLOGICALLY ACTIVE SUBSTANCES



Powder in extracting solution



Suspension homogenized



Supernatant dialysed



Antigen after centrifugation



Antigen stored at 20

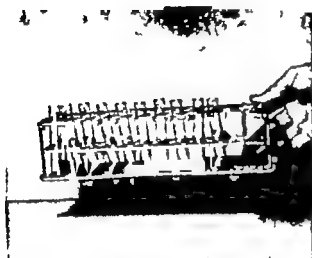
PERFORMANCE OF TPCF TEST

The TPCF test method represents a modification of one-fifth volume Kolmer complement-fixation test

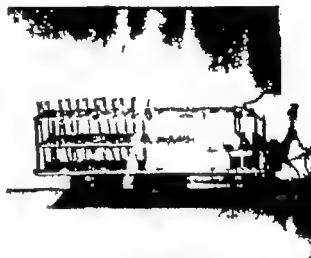
REAGENTS

- | | | | |
|---|--|---|-------------------|
| 1 | Saline (0.85% NaCl 0.01% Mg SO ₄) | 4 | Complement |
| 2 | Sheep Red Cell Suspension (2%) | 5 | Inactivated Serum |
| 3 | Hemolysin | 6 | Antigen |

ASSEMBLING THE TEST



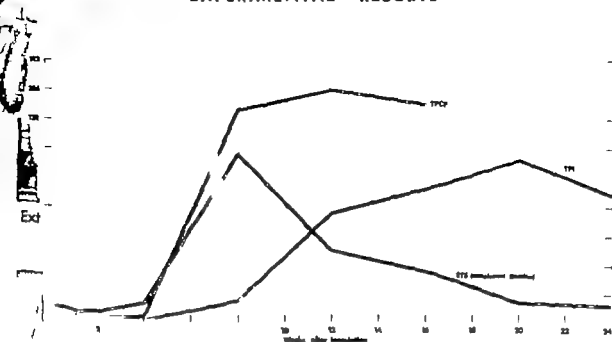
Hemolysin Titration
Dilution to contain 2 units



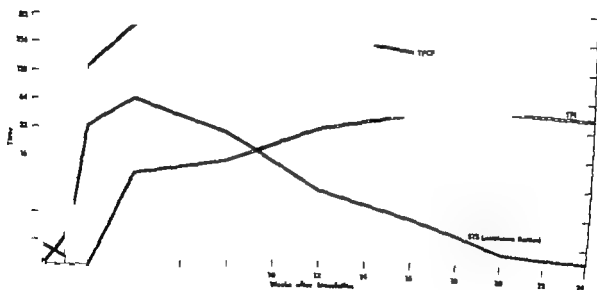
Complement Titration
Dilution to contain 1-1/2 units

QUALITATIVE TPCF TEST WITH SERUM

Reagent	tube 1 (test)	tube 2 (control)
Serum (heated 56°C) 1 - 5 dilution	0.2 ml	0.2 ml
Antigen (predetermined dilution)	0.1 ml	none
Saline	none	0.1 ml
Complement (1.5 units)	0.2 ml	0.2 ml
Incubate 16 - 18 hours at 4 - 8°C plus 10 minutes 37°C water bath		
Hemolysin (2 units)	0.1 ml	0.1 ml
Sheep cells (2%)	0.1 ml	0.1 ml
Incubate water bath 37°C for 20 - 30 minutes		
Read tests against Reading Standards		

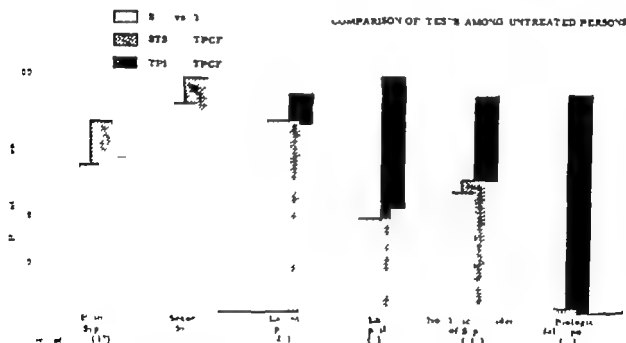
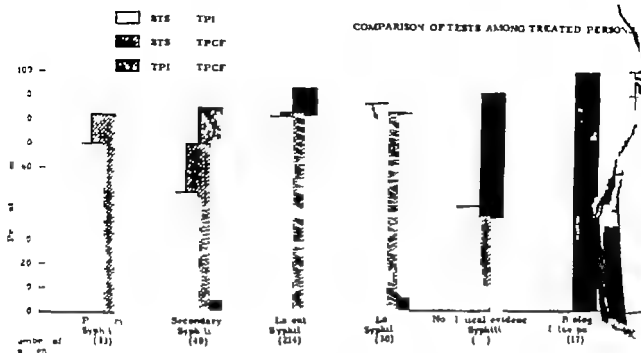


Appearance of Antibodies in Rabbits Inoculated with 10^2 *Treponema pallidum*



Appearance of Antibodies in Rabbits Inoculated with 10^8 *Treponema pallidum*

SIGNIFICANCE OF TEST



CONCLUSIONS

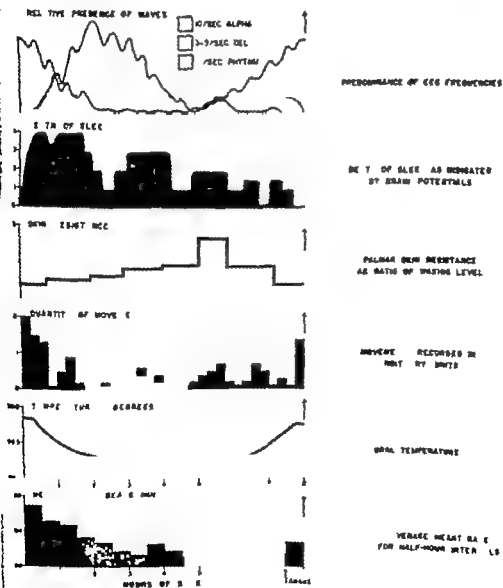
- 1 Reproducible antigens and highly reproducible test results are obtained with this technique
- 2 Test results in well documented cases indicate a specificity comparable to the T P I test in differentiating latent syphilis from B F P reactions
- 3 T P C F antibody differs from reagin and T P I antibody The full significance of these differences is not yet determined
- 4 Using this antigen laboratories equipped to perform well controlled complement fixation tests will be able to perform a treponemal test procedure

Physiological States in Sleep

CHANDLER MCC. BROOKS, BRIAN P. HOFFMAN, and E. E. SUCKLING, State University of New York College of Medicine at New York City Brooklyn, N. Y.

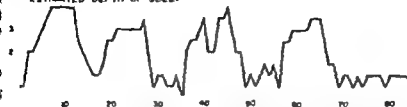
The exhibit presents pictorial representation of physiological activity during sleep, containing largely of records obtained from human subjects sleeping under controlled conditions and showing the effects of several environmental factors. Methods and procedures used in studies of sleep are illustrated. There will also be demonstration (conducted periodically) of the effects of variations in the depth of unconsciousness and associated changes in various physiological activities, using an anesthetized cat (in sound-shielded chamber) with multiple-channel direct recording instruments.

CLASSICAL CONCEPTS OF PHYSIOLOGICAL CHANGES IN SLEEP



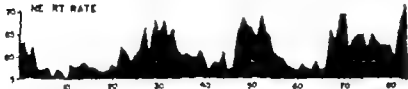
SINGLE NIGHT RECORD - ONE SUBJECT (TESTS RUN 2 MINUTES OUT OF 5)

ESTIMATED DEPTH OF SLEEP



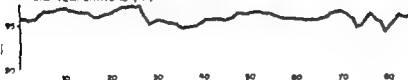
SLEEP DEPTH ESTIMATED
FROM EEG RECORDS

HEART RATE



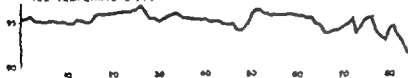
HEART RATE FROM EEG

ARM TEMPERATURE (°F)



TEMPERATURE RECORDED FROM
AXILLA AND GREAT TOE BUT
SHIELDED THERMOCOUPLES
FAIL TO REVEAL CYCLIC
CHANGES DURING SLEEP

TOE TEMPERATURE (°F)



DURATION OF MOVES (SECONDS)

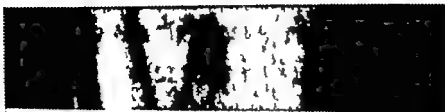


NUMBER OF MOVES



BODY MOVEMENT
WAS RECORDED CONTINUOUSLY

TIME IN FIVE MINUTE INTERVALS



At a normal amplitude and frequency present
primarily in temporal and occipital leads.

STAGE 1 Drowsy

Some of alpha waves with slow waves of varying
frequency at 4-7 cps.

STAGE 2 Light Sleep

Absence of alpha waves. Waves at 4-6 cps. of low amplitude
with some suggestion of spindles.

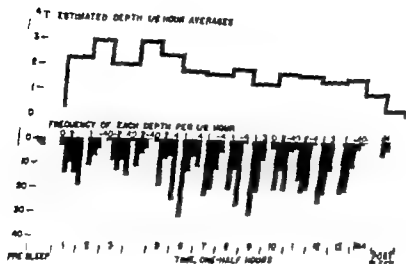
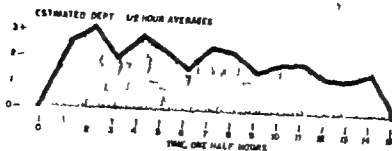
STAGE 3 Moderately Deep Sleep

Some waves at 4-7 cps. with regular spindles at 12-16 cps.
Some slower activity of low amplitude.

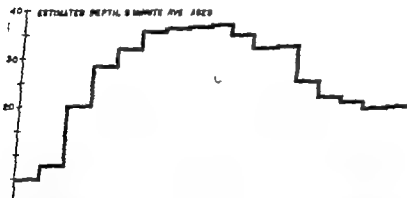
STAGE 4 Deep Sleep

Predominant high amplitude slow waves at 1-2 cps.
Some evidence of spindles at 8-12 cps.

AVERAGE CURVE OF DEPTH 0

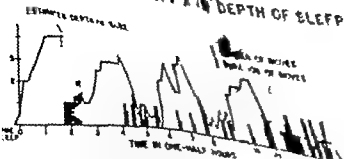


ANALYSIS
OF SLEEP
FREQUENCY
DEPTH OCC
HALF H

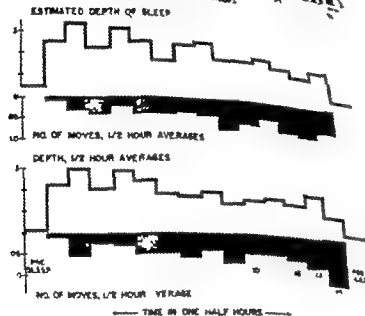


DETAILED ANALYSIS OF 7
60 MINUTES OF SAME CU
SHOWING FREQUENCY OF 54
DEPTH OF SLEEP
IN 5 MINUTE SAMPLES

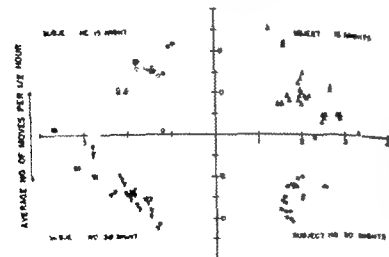
MOTILITY AND DEPTH OF SLEEP



Subject of Sleep 100 100 100 100 100
 No. of Moves 100 100 100 100 100
 Depth of Sleep 100 100 100 100 100
 Time in One-Half Hours 100 100 100 100 100



FE ARE CORRELATION COEFFICIENTS
 OF SLEEP DEPTH AND NO. OF MOVES
 ON 20 NIGHTS SUBJECT

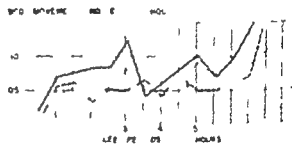
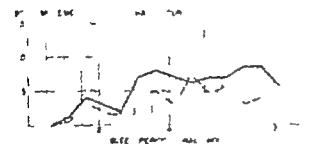
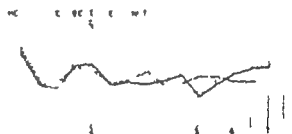
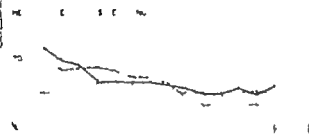
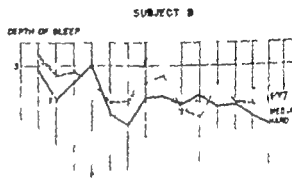
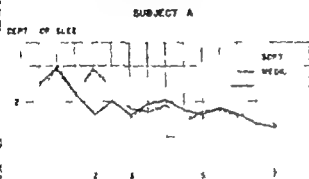


RELATIONSHIP BETWEEN NO.
 AND DEPTH OF SLEEP EXPRESSED
 IN TERMS OF AVERAGE NUMBER OF
 MOVES PER 1/2 HOUR PLotted
 AGAINST AVERAGE DEPTH OF SLEEP
 PER 1/2 HOUR

AVERAGE DEPTH OF SLEEP PER 1/2 HOUR

EFFECT OF ENVIRONMENT

A SERIES OF TESTS OF THE EFFECTS ON A SLEEPER OF VARIOUS ENVIRONMENTAL CHANGES IS BEING UNDERTAKEN. SOME RESULTS FROM TESTS WHICH INVOLVED WIDE VARIATIONS IN HARDNESS OF THE SLEEPING SURFACE ARE SHOWN BELOW



2 MMA OF CONDUITS

- A. THE VERY HARD BED CAUSED THE SLEEPER TO MOVE MORE OFTEN BUT DID NOT GREATLY ALTER THE AVERAGE DEPTH OF SLEEP OR THE WAKE UP TIME
- B. AVERAGE HEART RATES WERE NOT SIGNIFICANTLY ALTERED DUE TO THE EXTREME DIFFERENCE OF SLEEPING SURFACES

Miner's cough.

ROGER D. BAKER, Veterans Administration Hospital, and
Duke University School of Medicine, Durham, N. C.

The history of fungus disease that is apparently new one in the United States is explained. The first cases affecting the lungs were reported in 1941 and affecting the lungs in 1942. While due to fungus, Rhizopus, usually harmless and common contaminant, there must be predisposing disease, such as diabetes or leukemia, in the patient before the fungus can infect. Knowledge of this syndrome should more generally be distributed, as its early recognition makes possible the saving of life. The development of parietal swelling in patient with diabetes mellitus should suggest mucormycosis to the physician.

The Pathology of Virus Diseases in Newborn Infants.

DANIEL STOWERS, Armed Forces Institute of Pathology
Washington, D. C.

The morbid histological changes produced by viruses are illustrated, emphasis being placed upon the characteristic appearance of the lesions, their locations, and the etiologic agents. Brief summaries of the clinical manifestations of the diseases are presented. Because the diagnosis of these diseases at the present time rests almost entirely on recognition by the pathologist, and because of the questions relative to incidence and epidemic are still open, the necessity of awareness of these conditions is stressed.

The Thyroid Gland in Pregnancy

C. A. HELLWIG, R. P. STOFFER, JAMES A. KORDIGER, and
V. H. CHERRY Hertzler Clinic and Hertzler Research
Foundation, Halsstad, Kan.

The exhibit illustrates the structural and functional changes of the thyroid during pregnancy. The weights of thyroid glands during pregnancy in different regions and the microscopic characteristics in the thyroid of pregnant women are presented, as well as the basal metabolism, blood iodine, and changes for thyroid hormone during pregnancy. The incidence of types of goiter during pregnancy in different regions is presented, together with the indications for surgical treatment of pregnancy goiter.

The Thoracic Duct in Malignant Disease.

JOSEPH M. YOUNG, Veterans Administration Hospital, Mem-
phis, Tenn.

This exhibit expresses two main points: the first is the frequency of involvement of the thoracic duct by malignant disease, and the second is the need for more biopsy of supraclavicular nodes in cases of intra-abdominal or intrathoracic disease.

A Better Understanding of Anion-Cation (Acid-Base) Balance.

HARRY F. WISSNER, Mount Sinai Medical Research
Foundation and Chicago Medical School, Chicago.

The terminology of (acid-base) balance and the Henderson-Hasselbalch equation is confusing to most physicians. The exhibit defines these terms and illustrates the mechanics of anion-cation (acid-base) alterations utilizing the principle of a primary lever. The etiology and mechanics of altered anion-cation (acid-base) balance are presented. A model balance will be available for the physician to be able to alter the bicarbonate and carbonic acid of the balance or both, illustrating how the acidosis or alkalosis occurs and what steps are necessary for the body to compensate for the pathological change.

Certification of Medical Technologists.

LILL G. MONTGOMERY and RUTH DRUMMOND, Registry of
Medical Technologists of the American Society of
Clinical Pathologists, Muncie, Ind.

The exhibit shows activities and activities of the Board of Registry of Medical Technologists of the American Society of Clinical Pathologists in its work of setting standards for medical laboratory workers and certifying them. Informational literature, lists of approved schools of medical technology and statistics on salaries, places of employment of medical technologists, and various other elements pertaining to the general picture of the progress of medical laboratory work are included.

The History of Gout in Spain and Among Jews.

ISROOR GREENWALD, New York University College of
Medicine, New York.

Gout illustrates the history of gout in Spain and its rarity among Jews. Gout is relatively recent disorder in most of Spain. Its prevalence is decreasing in many places. The rarity of gout among Jews living in gaitzite region was noted in 1774, 1817 and 1937. There is evidence that this relation existed through the Middle Ages and well after the French Revolution, except for one city in Spain in the 15th century. A possible explanation is indicated.

Some Physiological Aspects of Aging.

N. W. SACKS, National Heart Institute, Bethesda, Md., and
Baltimore City Hospitals, Baltimore, Md.

This exhibit illustrates results from some of the physiological research on aging in man conducted in the Baltimore City Hospitals by the Section on Gerontology of the National Heart Institute. Utilizing data from studies on the acid-base balance of the blood, blood volume, blood sugar levels, renal function, cardiac output, and estimation of body water content and basal metabolism, the exhibit shows that, contrary to common belief, not all physiological functions diminish with age and that some of the age decrements that are apparent may be explained by progressive loss of functioning protoplasm.

Primary Adrenal Secretion in Rheumatic Fever
 H. H. C. ASHLEY, ROBERT B. FAY, and ALAN A. STONE
 University of Utah College of Medicine, Salt Lake City

17 α which promotes data from research concerning primary adrenal secretion in rheumatic fever, as evaluated by direct primary means of primary and adrenal hormones as basal and after a re level approach for treatment therapy and the clinical picture of the adrenal system to the and therapeutic effects of such large are demonstrated.

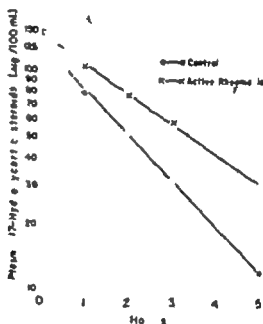
HORMONE PATTERNS IN RHEUMATIC FEVER

Blood levels of 17-Hydroxycorticosteroids and ACTH in untreated rheumatic fever



	17-OHCS	ACTH	17-OHCS	ACTH	17-OHCS	ACTH
1	10	10	10	10	10	10
2	10	10	10	10	10	10
3	10	10	10	10	10	10
4	10	10	10	10	10	10
5	10	10	10	10	10	10

Metabolism of hydrocortisone in rheumatic fever

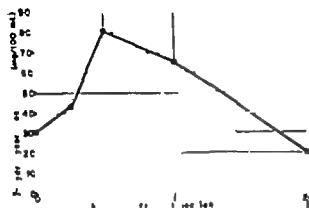


Except during early acute phase blood levels of 17 OHCS are low and ACTH high at all stages the steroid response to exogenous ACTH is adequate. The rate of metabolism of 17 OHCS is decreased in patients with active rheumatic fever.

CONCLUSION PATIENTS WITH RHEUMATIC FEVER HAVE RELATIVE ADRENAL INSUFFICIENCY AND IMPAIRED STEROID METABOLISM

SALICYLATES AND THE PITUITARY-ADRENAL SYSTEM

Influence of Salicylate on Plasma Levels of 17-Hydroxycorticosteroids



Serial plasma 17-OHCS levels in guinea pigs given 75 mg Na Salicylate \times I. P

Elevations of 17-OHCS levels do not occur in hypophysectomized or adrenalectomized animals

Markedly elevated plasma 17-OHCS levels were found in normal human subjects with salicylate intoxication. Similar elevations do not occur in rheumatics. Therapeutic salicylate doses given to normal human subjects result in significant fluctuations in 17-OHCS levels together with normal or decreased urinary excretions of steroids — suggesting increased production and an accelerated rate of corticosteroid metabolism.

Influence of Salicylate on Rate of Steroid Metabolism



Salicylate increases the rate of removal of exogenous hydrocortisone from circulation. The hump in the curve suggests increased steroid production.

Impression Salicylates have a dual effect

- 1 Stimulation of corticosteroid secretion
- 2 Acceleration of steroid metabolism (? utilization)

HORMONE THERAPY OF RHEUMATIC FEVER

Therapy Regimen Individualized

Initial dose

size of dose determined by

- 1 Size of patient - $\frac{\text{minimum}}{3 \text{ mg cortisone /lb /day}}$ 1 IU ACTH or
- 2 Severity of illness

Duration of initial dose

- 1 Determined by response of patient

Tapering

- When
- 1 No clinical evidence of activity
 - 2 ESR normal at least one week
 - 3 Serum mucoproteins less than 6 mg %

- How:
- 1 Small decrements
 - 2 Decrements at 2-3 day intervals
 - 3 Each decrement only if no clinical or laboratory rebound

COMPARATIVE EFFECTS OF CONTINUOUSLY CONTINUED, INJECTABLE, AND BED REST ALONE UPON VARIOUS ACUTE SYMPTOMS OF RHEUMATIC FEVER

	ACTH*	Cortisone	Salicylate	Bed Rest
Joint involvement				
Mean days until improved	0.7	0.8	1.8	7.0
Mean day until disappeared	1.7	2.0	8.8	19.8
Mean days until temperature normal	1.8	1.0	2.0	—
Mean day until E.S.R. normal	18.6	11.9	43.4	48.2
S.E.M.	±1.97	±2.40	±3.98	±13.8

RESIDUAL CARDIAC MURMURS FOLLOWING THERAPY OF RHEUMATIC FEVER

Time of exam.	Hormone Rx		Nonhormone Rx	
	No. pts. examined	Per cent with murmurs	No. pts. examined	Per cent with murmurs
Discharge	46	52	34	74
3 mo.	35	40	31	77
6 mo.	34	26	27	67
1 yr.	31	16	26	81
2 yr.	23	8	20	75
3 yr.	17	6	17	82

*Includes all detectable murmurs

Diagnosis and Treatment of Moniliasis in Pediatrics.

BOHDAN DODIAS, New York, and WALTER MITCHELL JR
Newark, N. J.

The exhibit is based on a clinical study of a series of 70 children with oral and cutaneous moniliasis. Kestachewicz of the etiologic agent and tables showing distribution of lesions, age, onset, and laboratory findings, as well as inquiries of typical skin and mucous membrane lesions. Illustrate clinical and laboratory diagnosis, treatment and other essential lesions of mothers are shown. Samples of swabs of infection in infants. Pictures of patients before and after treatment with new antifungal antibiotic mycostatin. Together with statistical data illustrate good therapeutic results. A dosage schedule for different forms of this drug is given.

Etiologic Agent

Candida (Monilia) albicans

Direct microscopic examination of scraping

Culture on Mycophil agar



Diagnosis in 70 Cases

The

inical

Skin lesions		100%
Diaper area	64%	
Face, ears, neck	50%	
Trunk	49%	
Extremities	49%	
Mucous membrane lesions		41%
Oral thrush	36%	
Diarrhea	19%	
Respiratory distress		16%



Laboratory

	No. Positive	No Performed	% Positive
Cultures of scrapings	70/70		100
Stool cultures	52/60		87
Urine cultures	4/5		*
Gastric washings	4/4		*
Blood cultures	1/2		*
Ear culture	1/1		

Performed only in selected cases

Diagnosis and treatment of the following conditions:

BORDAN DOMING N
Newark N J

† WALLER MITCHELL, R.

The study involved
 100 subjects and new
 spread and tables of
 laboratory findings
 maintained fewer
 of other models
 of infection to
 the new model
 which is good for
 the use of this drug in

a series of 70 children
 between the age of 12 and
 18 years, age at onset and
 of peak attack and the
 frequency of attacks were
 related to the age at onset
 and the frequency of attacks
 were related to the age at onset
 and the frequency of attacks

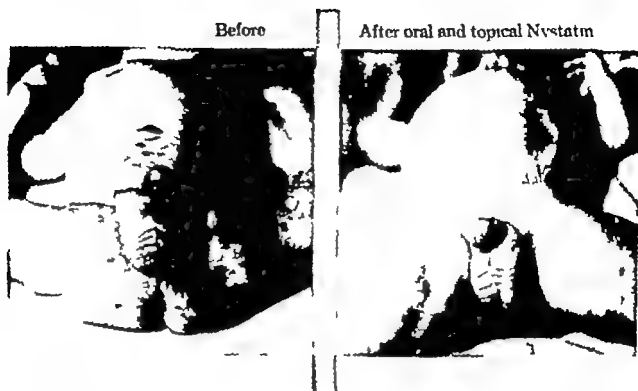
Etiologic Agent

Candida (Monilia) albicans

Direct microscopic examination of scraping

Culture on
Mycophil agar





Results of treatment with Nystatin

(Total number of patients treated 48)

Re 47

24

23

The Use of an Oral Electrolyte-Carbohydrate Mixture.

CARL A. GAGLIARDI and MARGORIT R. STEWART-GAGLIARDI, the Lynn Clinic and Hospital, Detroit.

An orally given electrolyte-carbohydrate mixture is proposed. Its use in infant dehydration are described. Case reports and pictorial representations are shown to illustrate its use.

Perinatal Mortality

GEORGE M. WHEATLEY, W. P. SHEPARD, and JOHN McIVER, Metropolitan Life Insurance Co., New York.

The exhibit presents facts that show the importance of perinatal mortality as an obstetric and pediatric problem. Contributing factors are outlined and suggestions made to reduce the major residual cause of infant mortality.

Repair of Industrial Septal Defects by the Closed Method (Atrio-Septo-Pexy).

HOOKE E. BOLTON, HARRY GOLDBERG, DANIEL F. DOWNING, and DEMETRIOS P. LAZARIDES, Bailey Thoracic Clinic, Philadelphia.

Transparencies, photographs, drawings, and three-dimensional models show various types of defects and methods of closure. The pathological variations, associated anomalies, and method (technical) of handling such are detailed step by step. Radiographic studies and physiological and clinical data before and after correction are detailed on charts.

Diagnosis and Treatment of Cystic Fibrosis of the Pancreas, Lungs, etc.

GEORGE E. GRAY, University of Nebraska College of Medicine, Omaha.

Clinical manifestations are listed (mucous bronchi, bronchitis, chronic diarrhea and bile colic). Most tests for fat and tryptase are shown by slides. A 14 P gastrointestinal tube is displayed in place on the model of baby. The effects of different pancreatic stimulants (mucosa, SFT and cretin) on pancreatic flow in clinical cases are summarized. The relations between the exocrine (Langer) tryptase assay and effect of untreated juice on tryptase is shown. Collection of sweat for diagnosis has been shown; normal and pathological values are summarized. Salivary chloride results are summarized. The current status of pancreatic agents (secretin tryptase, desoxytryptase) and antibiotics (antibiotics, serum, penicillin, and other antibiotics) is presented.

Pathology Associated with Jaundice in Infancy

ALBERT M. HAND and EDWIN B. HERRING, Institute of Pathology Memphis, Tenn.

This exhibit includes statements of pathology found at autopsy of patients from the City of Memphis Hospitals and the Lullwater Children's Hospital, Memphis, Tenn. Etiological conditions and pathogenesis are detailed.

The Operation of the Breast Milk Bank.

R. ROWEN KIDGELL, ROBERT MCGOUGH, IVAN ROBERTSON, HERBERT PHILLIPS, JOHN KIRCHERT JR., and JOSEPH RAFFAPORT EYERSON, Ill.

The pediatric and nursing staffs of the Evanston Hospital and the Junior League Volunteers will demonstrate the operation of the breast milk bank to suburban community. The staff physicians from the Evanston Hospital will describe the interest in breast feeding, how high percentage of breast feeding is achieved, its management, its advantages, and its difficulties. The nurses from the Evanston Hospital will describe the operation of the breast pump.

Intestinal Obstruction in Newborn Infants.

WILLIS J. FOTTE, W. L. RIKER, ARTHUR DEBOER, and THOMAS G. RAYNER, Children's Memorial Hospital, Chicago.

Intestinal obstruction in the newborn infant is due primarily to the following causes: atresia of the intestine, imperforate anus with and without fistula, meconium ileus, malrotation of the intestine, and atresia of the pyloric sphincter. The diagnosis and treatment of these

conditions is illustrated and emphasized by charts, x-rays, transparencies, drawings, and models.

Effective Treatment of a Growth Failure Syndrome in Children.

LOUIS S. GOLDSTEIN, Professional Hospital, Yonkers, N. Y.

Various causes for failure of children to gain weight at normal rates are analyzed. It is pointed out that in many instances such growth failures can be attributed to irritability and hyperactivity with consequent development of febrile states. An effective method for correction of this vicious circle is presented, together with the excellent clinical results that have been obtained from its use.

A Study of Blood Pressure in Children From to Eighteen Years of Age.

A. W. GRAHAM, Chisholm, Minn.

Charts show blood pressure of children from infancy through high school. Randomness compared for period of 30 years, with total enrollment varying from 2,000 to 3,700 annually.

Problem and Management of Constipation in Children.

HARRY R. LITCHFIELD, Brooklyn, N. Y.

A review of the aetiology and pathogenesis of constipation in children (functional, pathogenic, metabolic, and organic) will be presented. Pathological and other complications often noted in the presence of constipation in children are discussed. Illustrative material of the pathophysiology in the various forms of constipation is likewise presented. The management of each major type of constipation is outlined, the rationality of the therapeutic modality and the pharmacology of the therapeutic agents is illustrated and outlined.

Cutaneous Tumors in Childhood.

HAROLD W. DARTON and CHARLOTTE TAN, Memorial Center for Cancer and Allied Diseases, New York.

A variety of pigmented tumors occur during the juvenile age period, most of which are histologically benign. Their race, location and growth—evident and personal—differences are clinical importance. Examples of angioma, nevus, melanoma, neurofibroma, xanthoma, carcinoma, leukodermia, and retinoblastoma are shown in the exhibit and the therapy is described.

Experiences with Leukemia in Childhood.

ROBERT LUTSKY, ALVAN L. NEWCOMB, MATTHEW M. STEINER, and HOWARD S. TRAMMAN, Children's Memorial Hospital, Chicago.

The exhibit of charts, manuscripts, and drawings show patients under management with leukoemia and time action of different lesions.

Microscopic Dens, A Medical and Surgical Challenge.

HARRY C. BRIDG, JOHN W. HOWE, and C. EVERETT KOOF, University of Pennsylvania School of Medicine and the Children's Hospital of Philadelphia, Philadelphia.

The exhibit presents the clinical and roentgen diagnosis of osteomas from the newborn infant. The pathology and various methods of surgical management are reviewed. A new method of relieving the obstruction by partial resection, Roentgen-Y measurements, and single-beam roentgenography for documentation and illustration of the underlying osteoma is included. The other problems that will later arise in patients with osteoma disease of the newborn present a challenge to successful medical management.

Treatment for Convulsive Disorders.

RUTH W. HALLFORD, CHARLES VAN BUREN, and GEORGE S. COVINO, University Hospital, Baltimore.

A proposed clinical classification adopted from W. G. Lennox is presented of convulsive disorders. Correlated with electroencephalographic findings and medications found useful of each group, also four electroencephalographic studies. Manuscripted forms available for distribution include (1) structural formulas of medications commonly used in treatment of convulsive disorders, (2) comparative results of newer medications, (3) classification of seizures, and (4) drug dosage and toxicity.

What Price Ambulation? A Study of the Indications and Contraindications for Paraplegic Ambulation ..

EDWARD E. GORDON, Michael Reese Hospital, Chicago

Studies on oxygen consumption, oxygen debt, and blood lactate indicate that for more severely involved paraplegics (transverse myelomyelitis, cerebral palsy) routine ambulation imposes severe physical stress beyond their capacity. Energy requirements are such that in these subjects the demand is comparable to that of running a 100-yd. dash in normal persons. Thus, at ambulation rate of 1 to 1.5 miles per hour these paraplegics reach their metabolic limit in four to six minutes. These findings have important implications regarding activity in preparing paraplegics for routine ambulation but, do not interdict ambulation purely as an exercise to maintain physiological balance.

Energy turnover for muscular activity is ultimately supported by two oxidative processes:

1. "Pay As-You-Go" Plan: Aerobic process of O_2 consumption per minute during exercise.
2. "Short Term Loan" Plan: Anaerobic process of energy expenditure without payment of O_2 , but the O_2 debt so incurred is repaid immediately after exercise.

Pay As-You-Go or Aerobic O_2 : With increasing intensity of activity O_2 consumption per minute increases proportionately up to a certain limit. When the O_2 consumption in a given activity approaches the individual's limit, he cannot increase his pace of work. See cases J.T. & S.B., 3-a.

"Short Term-Loan" or Anaerobic O_2 : The consequent O_2 debt accumulated with anaerobic work corresponds to the intensity of the activity. Its absolute limit depends on the individual's total active muscle mass and state of training. When the accumulated O_2 debt in a given activity approaches the individual's "ceiling" he must stop. See cases J.T. & S.B., 3-b. In severe exercise blood lactate concentrations rise considerably.

Method: O_2 consumption was found in 11 paraplegics disabled by poliomyelitis, transverse myelopathy or cerebral palsy during ambulation and in the recovery period.

Representative findings are presented for 3 subjects ambulating at a slow speed, along with data derived from normal subjects of the same age and sex.

1. Physical Work: Speed and distances traveled during an equal time interval.
- Cardiovascular Work: Pulse rates.
3. Metabolic Work:
 - A. Aerobic O_2 consumption/min.
 - B. O_2 Debt.
 - C. Blood lactate.

CASE J.T.

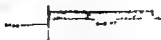
1 PHYSICAL WORK

P O L I O

Normal

N O R M A L

Normal



2 CARDIOVASCULAR WORK

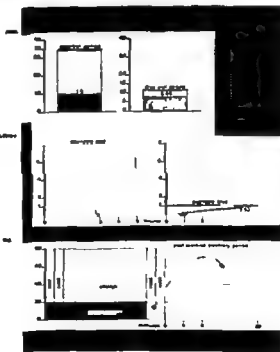


3 METABOLIC WORK

a AEROBIC O₂ CONSUMPTION

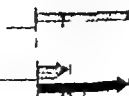
b OXYGEN DEFECT

c BLOOD LACTATE



CASE 1

1. PHYSICAL WORK



2. CARDIOVASCULAR WORK



3. METABOLISM

4. AEROBIC O
CAPACITY (L/min)



5. OXYGEN
DEBT

6. BLOOD LACTATE



CASE F.P.

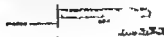
1 PHYSICAL WORK

CEREBRAL PALSY

100% 100% 100%

NORMAL

100% 100% 100%



2 CARDIOVASCULAR WORK

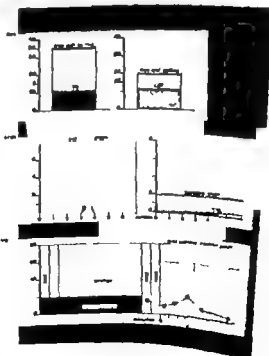


3 METABOLIC WORK

AEROBIC O₂ CONSUMPTION
100% 100% 100%

OXYGEN DEBT
100% 100% 100%

BLOOD LACTATE



Conclusions

Physiological Findings

J T & S B Did Severe Physical Work Crutch Ambulation Is impractical

O cons./min.—maximal

O debt—reserve for only *one more minu* of ambulation high blood lactate.

Pulse rate—reflected extreme cardiac work

F P Did Mild Work Crutch Ambulation Practical

O cons./min. far below ceiling

O debt—minimal no rise in lactate

Pulse rate—moderate rise

Severe metabolic activity correlated with loss of the L₄-L₅ extensors—J T, S B and four others with similar findings.

Clinical Findings

Functional integrity of trunk extensor apparatus to be the main determinant of ambulation as a *routine practice* in paraplegia

In transective myelopathy the crucial level is T10-T12

In poliomyelitis the crucial muscles are the back extensors.

Age is another determinant

A 40-year old polio with good trunk extensors had findings similar to J T

Paraplegics with back extensors should

A Use wheel-chair for *all* locomotion.

B Assume the upright position 2 hour daily for physiologic balance

Post-exercise pulse rates is a good clinical index of the severity of stress imposed and may be used as a criterion for ambulation

Exhibit designed by Patricia Blake

Preventive Measures in the Management of the Hemiplegic

RAY PIASKOSKI, ROBERT W. BOYLE, EDWIN C. WILSON, JR.,
A. DUDENHOFFER, ALBERT M. COHN and DELORE
WILLIAMS, Marquette University School of Medicine
Milwaukee.

This exhibit shows the methods used to maintain those gains made during the rehabilitation process. It consists of transparencies of leg splints, devices, braces and appliances, and home exercises given to the patient so he remains as independent at home as he was able to be in the rehabilitation program.

The rehabilitation of a patient with hemiplegia begins the day he suffers his cerebro-vascular accident and does not end until he is as independent as possible in the personal, social and vocational aspects of his life. The primary purpose of this exhibit is to emphasize the relatively simple measures which can be employed by physicians anywhere in the hospital or home.

The first phase while he is a bed patient is concerned with the prevention of contractures and deformities which will hinder his ability to use the extremity when motor return is sufficient for him to use it. During this time stress is laid on

1. Proper bed positioning
2. Splints
3. Passive range of motion

The second or wheelchair phase is still concerned with prevention of deformity but beginning independence is stressed. At this time are added

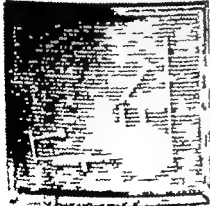
1. Active asistive and active exercises.
2. Self help in feeding and dressing using adapted equipment as needed.
3. Beginning vocational or other social planning

The Third phase the ambulatory is planned to prepare the patient for return to his home and community. During this period the major emphasis is on

1. Standing, balancing and ambulation activities using first parallel bars and progressing to eventual use of one cane or complete independence
2. Provision of permanent assistive devices such as drop foot brace or permanent arm support
3. Development of complete independence in the activities of daily living with adapted equipment if needed.
4. Vocational retraining if indicated.

The fourth phase represents the patient's return to the community and his resumption of his normal place in the family constellation. Here the emphasis is on

1. Continued home exercise program to maintain the gains he has made and to prevent deformity which might develop through faulty habits.
2. Participation in family and social activities.
3. Return to previous vocational status or development of new vocational or avocational interest



AIMS

Prevention of shoulder abduction and extension, and contraindication in flexion and extension.
Prevention of forearm extension from prolonged sitting.
Prevention of ulnar deviation.
Prevention of postural deformities of hips and ankles.

Outward arm, used for general shoulder abduction and extension.

Trough-like arm, used for general shoulder abduction and extension.

Outward arm, used for general shoulder abduction and extension.

Outward arm, used for general shoulder abduction and extension.

H-4, used for general shoulder abduction and extension.

Outward arm, used for general shoulder abduction and extension.

Outward arm, used for general shoulder abduction and extension.

Outward arm, used for general shoulder abduction and extension.





AIMS

1. Presentation of education and information at the level of the user's education level of work and health
2. Presentation of and the professional by use of interactive devices and program
3. Training
4. Presentation of information by use of an interactive program.

Also known as: presentation of information

Also known as: presentation of information



Also known as: presentation of information

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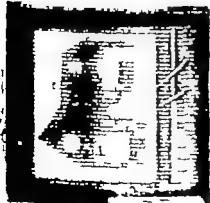


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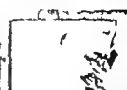
Also known as: presentation of information

Also known as: presentation of information



AIMS

To prevent regression at home by substituting an active exercise program, developing daily living skills, and encouraging social and vocational reactivation.



SEVERE

Placing active activities and activities involving any movement. The patient usually moves from the bed to the sitting position. The body of activities follows. Occasionally some light work is employed. Possible attempts to reduce time and activity are made.

12/15

MILD Strengthening and coordination exercises are continued. The patient usually responds well to these active home, vocational and social activities.



PROGRESS Strengthening and range of motion exercises are continued. The patient usually walks in the "right way" about the home, returns to slowly walking in the street, and helps, employment and even on the road activities.



Applications of Electromyography in Clinical Medicine.

A. A. ROSENZ Y T OESTER, and J. J. FUDENIA, Stritch School of Medicine of Loyola University Chicago

The exhibit of films illustrating (a) the general principles of electromyography (b) common findings in electromyography (c) the application of electromyography to general practice. In addition, films with tape recorder will be used, and periodic films on human subjects are planned.

Rehabilitation Follow-Up: A Medical Responsibility in Treating the Wheel Man.

A. B. C. ANDERSON, F. J. BALBAH, and J. H. VAN SCHROCK, Veterans Administration Washington, D. C.

The exhibit points out the responsibility of the physician involved in the acute phase of treatment providing for follow-up rehabilitation; outlines the scope of physical medicine and rehabilitation services; the rehabilitation follow-up services available in the community; and the need for knowledge of the ultimate results of the total rehabilitation process as a means of knowing progress in the art and science of medicine.

The Multiphasic Approach to Rehabilitation.

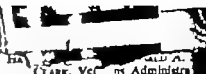
SRDOWICK MEAD, Vallejo, Calif. and O. L. HUDDLESTON, Santa Monica, Calif.

The exhibit of photographs, drawings, charts, and suitable literature demonstrates the thesis that patients need careful planning and preparation before admission, the multiple services of medical and psychological evaluation and treatment as well as physical and occupational therapy, social therapy, recreation, and rehabilitation nursing. Following discharge the patient needs follow-up services to insure that goals reached are not subsequently lost.

Disturbances of Space Perception in Hemiplegics and Its Relation to Gait Training.

MICHAEL W. FLAHERTY and JAN H. BRIDELL, Highland View Hospital and Western Reserve University School of Medicine, Cleveland.

The exhibit illustrates new data on space perception (visual and auditory) in hemiplegics by means of graphs, models of spatial and perceptual factors. The photographs present typical errors both before and after treatment. The photographs present typical errors both before and after treatment. The photographs present typical errors both before and after treatment.



The exhibit shows how various throbbles can be prevented by the resistance of video during prolonged immobilization.

Crownsroads: A Community Rehabilitation

DEAN W. ROBERTS and JAYNE SHON, Crippled Children and Adults, PATTON and K. R. MANONING, for Crippled Children and Adults

The exhibit presents demonstrations by the staff and selected patients of the Crownsroads Rehabilitation Center, to typify comprehensive rehabilitation. Children's Societies nationwide. Professional field of physical, occupational, and speech educational courses will be present at the of therapists.

Training Technique for Upper Limb Amputees

BEN L. OAK, Rehabilitation Institute, COMPLEX, Chicago.

This exhibit demonstrates different training techniques for the amputees. It features demonstration of various methods of training and will also demonstrate activities for patients having different levels of amputation.

Safety: A Factor in the Functional Training of the Disabled

MORTON HOSERMAN, EMMETT F. CACENA, and BEN DIERVITZ, New York State Rehabilitation Hospital, York.

The exhibit demonstrates the factors of body mechanics that be taught and utilized during functional training of the disabled as to minimize accidental injuries. The safety education system is designed primarily since the most learn these for her own protection as that of the patient. A live demonstration will also be given to implement the safety factors shown by the photographs. The exhibit will allow the audience to prevent problems that they have and that be worked out by the demonstrators.

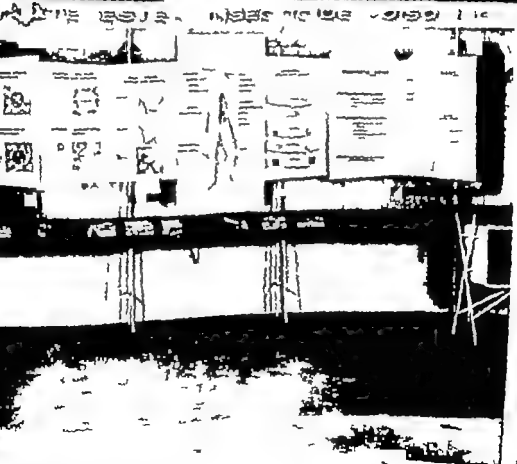


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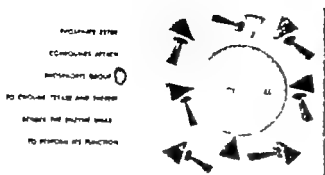
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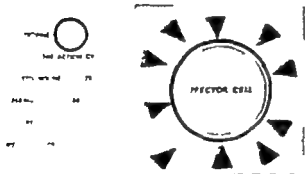


MECHANISM OF TOXIC ACTION OF PHOSPHATE ESTER INSECTICIDES



ROUTES OF EXPOSURE TO PHOSPHATE ESTER INSECTICIDES

MECHANISM OF PROTECTIVE ACTION OF ATROPINE



SKIN
ABSORPTION



INHALATION



INGESTION
OF FOOD



011 01111 011

1 1 1 1 1 1 1 1 1

COMA

CONVULSION

HEADACHE

VERTIGO

SWEATING

MUCUS

LACRIMATION

BLURRED VISION

SALIVATION

DYSPNEA

PULMONARY EDEMA

TAENTPEA DIA

ELEVATED BLOOD PRESSURE

VOMITING

CRAMPS

BRADYCARDIA

MUSCULAR FIBILLATION

MUSCULAR WEAKNESS

TREMOR

MEASUREMENT OF CHOLINESTERASE ACTIVITY

THE CHEMICAL REACTION CATALYZED BY
THE ENZYME IS



MOST METHODS EMPLOY
MEASUREMENT OF THE INCREASE IN
CONCENTRATION OF H^+

I. MANOMETRIC

[$2H^+ CO_3 \rightarrow H_2O CO_2$]

II. ELECTROMETRIC

III. COLORIMETRIC

(Biomaterial Blue)

DIAGNOSTIC NOTES

IT PROBABLY IS PHOSPHATE ESTER POISONING IF

1. there is a definite history of exposure 6 hours or less before onset AND
2. there is clinical evidence of diffuse parasympathetic stimulation AND
3. there is marked depression of plasma and RBC cholinesterase. There are usually no symptoms or signs till choline levels are 1 each below 25% of normal or pre-exposure values

IT PROBABLY IS NOT PHOSPHATE ESTER POISONING IF

1. the exposure was more than 12 hours before onset
2. it is a febrile illness.
3. there are meningeal signs.
4. neither plasma nor RBC cholinesterase level is below 30%
5. illness persists longer than 24-48 hours

REMEMBER the onset is abrupt, the course is short, and the clinical manifestations follow a definite pattern.

MEASUREMENT OF CHOLINESTERASE ACTIVITY

THE CHEMICAL REACTION CATALYZED BY THE ENZYME IS



MOST MET OPS EMPLOY
MEASUREMENT OF THE INHIBITORY
CONCENTRATION

SUGGESTED
TREATMENT SCHEDULES

SEVERE POISONING

MILD POISONING

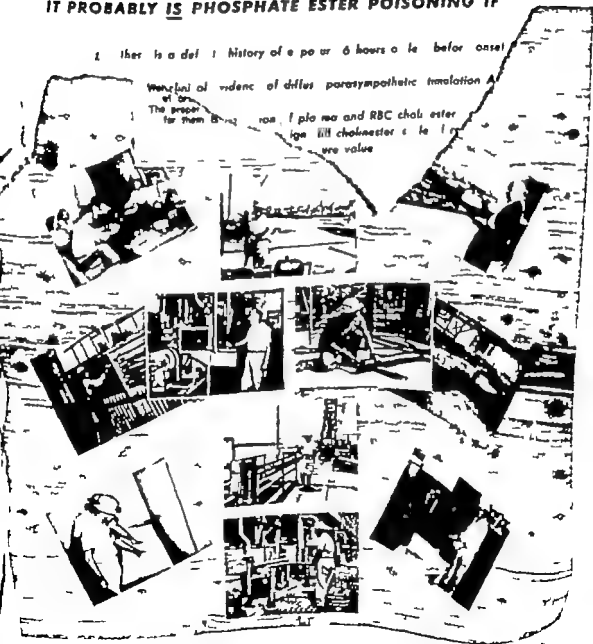
DIAGNOSTIC NOTES

IT PROBABLY IS PHOSPHATE ESTER POISONING IF

There is a definite history of exposure 6 hours or less before onset

Went on to discuss of effects parasympathetic stimulation

The proper for them is - 100, 150, 160 and RBC cholesterol
100, 150, 160 and RBC cholesterol is 100
are value



EVALUATION OF THE EMPLOYEE WITH ARTERIOSCLEROTIC HEART DISEASE

CONTROLLED
TRIAL

AT WORK

HISTORY

EXAMINATION

STRESS
TESTING

X RAY

PULMONARY
FUNCTION

LAB

EKG

BCG

PLACEMENT

The Physician - evaluates the patient
- estimates his capacities
for work, in terms of
walking, climbing, lifting,
etc. permitted each
work day
- completes the physical
capacities (PCA) form

The Company
Management - analyzes the job
- determines the physical
capacities required
- completes the physical
demands analysis
(PDA) form

The Supervisor - correlates the PCA with
the PCA & other au-
thorizations of the employee
Personalized cooperative effort of all
concerned achieves proper placement
Careful follow-up by both physician &
supervisor confirms proper placement
or indicates necessary changes





Dark vessels represent normal venous system
 Light vessels represent partial filling of normal
 veins after the dye injection.



Normal lateral axygos



Block of the axygos vein due
 lobe tumor with backflow of



Extradural lesion with block of the dural sac at the level of D 9 - D 10. Confirmed by surgery.

Chordoma.

CHARLES M. GREENWALD, THOMAS F. MEANEY and
C. ROBERT HUGHES, Cleveland Clinic, Cleveland.

Chordomas are rare neoplasms of notochordal origin that may arise anywhere along the cerebrospinal axis. Examples of chordoma in the cranial, vertebral, and sacrococcygeal location are shown. Emphasis is given the vertebral lesion, which is least common. Roentgen findings are variable, and chordomas will often be mistaken for any number of the more common destructive lesions. A differential diagnosis is presented that varies with the level of the cerebrospinal axis involved.

CRANIAL CHORDOMAS



Chordoma with Middle Fossa Destruction



Advanced Chordoma with Orbital Extension

CHORDOMAS ARE RARE NEOPLASMS OF NOTOCHORDAL ORIGIN
OCCURRING ALONG THE CEREBROSPINAL

Differential Diagnosis



Craniopharyngioma and Pituitary Carcinoma



Extension from Sphenoid and Nasopharynx



Acoustic Neuroma



Glosses Jugularis Tumor

VERTEBRAL CHORDOMAS



C₂ Chordoma with Extension by Laminogram

35 45 /
LL ROOMAS

10 or 20
50%
M M

Differential Diagnosis



Infection Including Tuberculosis



Intraspinal Tumor
(Ependymoma)



Metastatic Tumor



C4 Chordoma with Pedicle Erosion

VERTEBRAL CHORDOMA IS MOST VARIABLE AND LEAST COMMON

Differential Diagnosis

X RAY FEATURES INCLUDE

L i d i c i s w i t h
b o n e d e n s i t y

A s i d e f r a c t u r e
n o t b l a n k

L o c a l i z e d l e s i o n
o f t h e b o n e
l i m i t e d c o n t i n u o u s
b o n e

H i s t o r y o f
l e s i o n i n
p a s t

M o d e r n



Primary Bone Tumor
and Plasmacytoma



Epidermal Granuloma



Lymphoma



Dorsal Chordoma Involving Multiple Bodies



L3 Chordoma with Incomplete Spinal Block

SACROCOCCYGEAL CHORDOMAS



Caudal Chordoma with Huge Soft Tissue Mass

CHORDOMAS ARE OFTEN MISTAKEN FOR THE MORE
COMMON DESTRUCTIVE LESIONS ILLUSTRATED

Midline Sacral Chordoma

45 55 /
C11 D W 5

4 20
20 20



Differential Diagnosis:



Intraspinal Tumor
(ependymoma)



Extension From Pelvic Carcinoma and Metastases



Chordoma or Glioma
Cell Tumor



Presacral Growth
Including Teratoma

DIFFERENTIAL DIAGNOSIS WILL VARY
WITH THE LEVEL OF THE LESION

Selective Segmental Bronchography

ANDRÉ MACKAY, ARMAND TRÉPANIÉ, and MAURICE R. DUPRÉ, Hospital Notre Dame, Montreal, Canada.

The usual technique of bronchography does not always succeed in injecting all the bronchial segments, even in normal patients. This is even more frequent when there exists, in a lobe or segment, a lesion of any kind limiting partially or entirely the ventilation of these segments. It frequently happens that this segment or lobe is not sufficiently injected for diagnostic purposes. With selective bronchography only the desired segments are injected, in the order desired, and the specification of the pathological segment is more complete and permits more precise diagnosis.

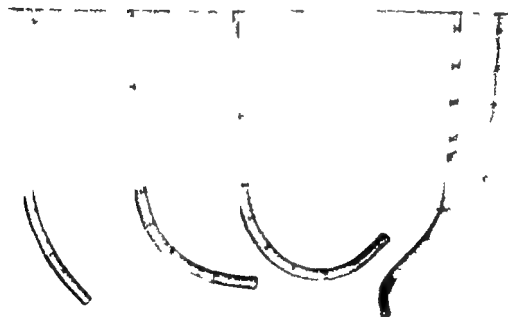
Report of 350 cases of Bronchograms

by

Selective Segmental Injection

with

M E T R A S T U B E S



SMALL CURVED

MEDIUM CURVED

LARGE CURVED

DO"

Basal Segment

Middle Lobe

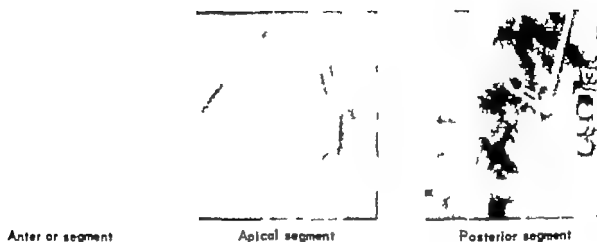
Apical segment

Dorsal segment

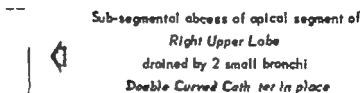
1st 2nd 3rd 4th

upper lobe

NORMAL



PATHOLOGY



Bronchiectasis in anterior segment
Right Upper Lobe
Double Curved Catheter in place



LEFT LUNG

upper lobe

NORMAL



Apical posterior segment



Anterior segment

PATHOLOGY

Cancer of Left Upper Lobe.

A Large Curved Catheter within the stenosis
injects the narrowing and small abscess in
the atelectatic Left Upper Lobe.



Stenosing bronchogenic carcinoma
in Left Upper Lobe.
A Large Curved Catheter has been pushed
through the stenosis and injects contrast
Apical Posterior Segment.

lower lobe

NORMAL



Superior Segment



Posterior Basal Segment

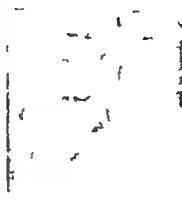


All Basal Segments

PATHOLOGY



Two abscesses in Superior Segment Medium Curved Catheter in the segmental bronchus



Bronchiectasis in Superior Segment with Medium Curved Catheter in place Nordenstrom technique injected all other segments except this one



Large bronchiectatic abscess in Anterior Basal Segment Small Curved Catheter in place

LEFT LUNG

lower lobe

NORMAL



Posterior Segment



Anterior Segment

PATHOLOGY



Fusiform bronchiectasis of all Basal Segments. Note double contrast Small Curved Catheter in Lower Lobe Bronchus.

Giant emphysema of Superior Segment crowding all basal segments. Injection of that segment would have been unlikely without catheter.



BLIND TECHNIC

Example
of
blind
or
postural
technic.



Incomplete
filling
of
the
Upper
Lobes.

SELECTIVE TECHNIC



Right lung
Bronchiectasis of
upper and middle lobe

same
patient



Left lung
Normal

A COMPLETE BRONCHOGRAM IS ESSENTIAL IN BRONCHIECTASIS.

**TO BE SURE THAT EVERY SEGMENT IS ADEQUATELY INJECTED
FLUOROSCOPY AND SPOT FILMS ARE NECESSARY**

middle lobe



← Middle Curved Catheter in Middle Lobe. Almost complete stenosis of 3 cm in length. Some Aqueous Dionosil in stenosis and some beyond it Bronchogenic Ca.

lingula



Double Curved Catheter in Lingula. Fusiform Bronchiectasis. →

CONCLUSION

1

METRAS CATHETERS ARE USEFUL IN REACHING SELECTIVELY CERTAIN DISEASED SEGMENTS.

2

IN 350 CASES, WE ARE SATISFIED WITH AQUEOUS DIONOSIL AS THE IDEAL BRONCHOGRAPHIC MEDIUM, FOR THE TIME BEING

3

FLUOROSCOPY AND SPOT FILMS ARE JUST AS IMPORTANT IN THE STUDY OF THE BRONCHO-PULMONARY TREE AS THEY ARE IN THE STUDY OF THE GASTRO-INTESTINAL TRACT

4

WE BELIEVE THAT THE RADIOLOGIST ENDOSCOPIST TEAM IS ESSENTIAL FOR A GOOD AND SECURE BRONCHOGRAPHIC STUDY

Diagnosis of Perforated Abdominal Viscera on Supine Films.

FRANK MINTON, State University of New York College of Medicine Brooklyn, N.Y.

A film is presented on positive supine films of free intraperitoneal air in perforated viscera. Air is demonstrated on the supine films in the lower peritoneal sac and subhepatic, subphrenic, pericolic, and pericardiac regions. Many cases had erect films that demonstrated free subdiaphragmatic air and all were proved at operation. Only routine supine films, however, are demonstrated in this study. They are all diagnostic. This study is considered important, since in definite percentage of the cases diagnosis of perforation was first suspected and made on supine films. Erect and decubitus films are still the procedures of choice in demonstrating perforated hollow viscera.

A New Agent for Preparation of Patients for X-ray Examination of the Abdomen.

MILTON BRINERANT, Beth D. Hospital, New York

The technique of a newly defined type of the abdomen and its use in the examination of patients and procedures used to accomplish it are presented. The technique is described from one of the drugs in which the use of the drug is described and compared to the other drugs in the class.

Significance and Diagnosis of Colonic Polyps.

LEON F. FINE, STEVEN J. FINE, and FRED A. WINTERSON, G. H. Hospital, Detroit

For three years the authors have applied an intensive, combined approach to the study and detection of polypoid lesions of the colon. The results have been obtained in the approach. The use of fluoroscopic roentgenography, high resolution, and the use of the sigmoidoscope in the examination of the colon. The authors have also used this in the examination of the large intestine. The use of the sigmoidoscope and the use of the sigmoidoscope in the examination of the large intestine. The use of the sigmoidoscope and the use of the sigmoidoscope in the examination of the large intestine.

Combined Retroperitoneal Fluorography and Laminography in the Diagnosis of Multiple Abdominal Tumors.

LEON F. FINE, STEVEN J. FINE, and RALPH MINTON, Veterans Administration Hospital, Philadelphia

The authors present the application of this technique in the diagnosis of multiple abdominal tumors.

The diagnosis of the retroperitoneal multiple tumors—abdominal Hodgkin's disease, lymphosarcoma, retroperitoneal sarcoma, metastasis from testicular seminoma, teratoma, and metastasis to the paracolic spaces in renal tumors. Liver and spleen are included. A new technique of induction of pneumography in polycystic kidneys and sarcoma is outlined. The basic anatomy is reviewed.

Rotation Cobalt Teletherapy for Cancer: Television-Fluoroscopic Alignment Technique.

HENRY L. JAFFE and STANLEY H. CLARK, Cedars of Lebanon Hospital and University of Southern California School of Medicine, Los Angeles

The authors present a series of procedures used for the treatment of cancer. The authors present a series of procedures used for the treatment of cancer. The authors present a series of procedures used for the treatment of cancer.

Contrast Radiography (Opaque Contrast Mediums).

THEODORE F. HARRIS and EUGENE BRONSTEIN, the Chaim Center, National Institutes of Health, Bethesda, Md.

The authors demonstrate the wide range of radio-opaque contrast mediums available as diagnostic methods. The authors demonstrate the wide range of radio-opaque contrast mediums available as diagnostic methods. The authors demonstrate the wide range of radio-opaque contrast mediums available as diagnostic methods.

Preoperative Roentgen Studies in Primary Lung Carcinoma.

LAWRENCE REYNOLDS, WILLIAM M. TUTTLE, HAROLD F. FULTON, and GEORGE H. BOOTE, Harper Hospital, Detroit

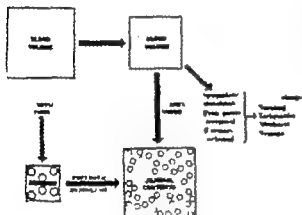
The preoperative roentgenologic study of patients with primary lung carcinoma consists of general and special diagnostic roentgen procedures. The authors present a series of procedures used for the treatment of cancer. The authors present a series of procedures used for the treatment of cancer. The authors present a series of procedures used for the treatment of cancer.

Treatment of Gastric Cancer

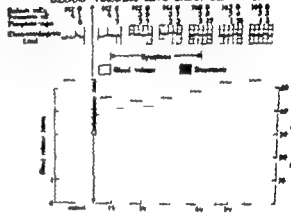
GEORGE T. PACK, GORDON F. MCNEER, RICHARD BRANFELD,
KATHLEEN E. ROSENTHAL, DOUGLAS A. STENDERLAND,
LOUIS D. ORTEGA, and HENRY T. RANDALL, Memorial
Hospital, New York.

The author covers three phases in the treatment of cancer of the stomach: (1) pathological studies based on autopsy and investigation of specially cleared surgical specimens for lymph node distribution of metastasis, with certain conclusions regarding surgical technique; (2) metabolic changes in humans after total gastrectomy; and (3) problems of treatment.

PHYSIOLOGY OF THE DUMPING SYNDROME



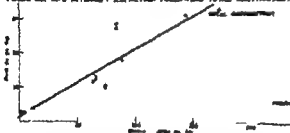
BLOOD VOLUME AND E.C.G. CHANGES



The dumping syndrome is a clinical entity characterized by a rapid emptying of the stomach into the small intestine. This leads to a rapid absorption of the contents, resulting in a hyperosmolar solution in the small intestine. This causes a shift of fluid from the intravascular space into the intestinal lumen, leading to a decrease in blood volume. The resulting hypovolemia can cause symptoms such as dizziness, weakness, and tachycardia. The dumping syndrome is often associated with gastric cancer, particularly after a partial gastrectomy.

There is a close relationship between blood volume and the dumping syndrome. The dumping syndrome is characterized by a rapid emptying of the stomach into the small intestine, leading to a rapid absorption of the contents. This results in a hyperosmolar solution in the small intestine, which causes a shift of fluid from the intravascular space into the intestinal lumen, leading to a decrease in blood volume. The resulting hypovolemia can cause symptoms such as dizziness, weakness, and tachycardia.

FEEDBACK AND METABOLIC INTERACTION FOLLOWING TOTAL GASTRECTOMY



Time	Blood Volume	E.C.G. Changes
0	100	Normal
10	100	Normal
20	100	Normal
30	100	Normal
40	100	Normal
50	100	Normal
60	100	Normal
70	100	Normal
80	100	Normal
90	100	Normal
100	100	Normal

ABSORPTION OF VITAMIN B₁₂



Time	Blood Volume	E.C.G. Changes
0	100	Normal
10	100	Normal
20	100	Normal
30	100	Normal
40	100	Normal
50	100	Normal
60	100	Normal
70	100	Normal
80	100	Normal
90	100	Normal
100	100	Normal

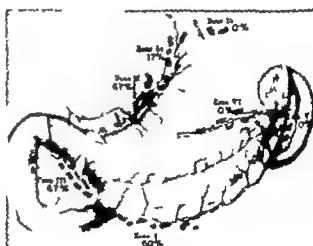
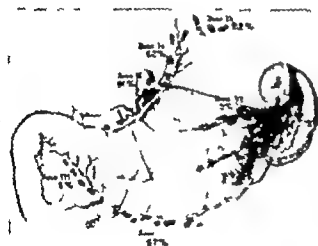
By use of C-14 labeled Vitamin B₁₂, it has been shown that the absorption of Vitamin B₁₂ is decreased in patients with the dumping syndrome. This is due to the rapid emptying of the stomach into the small intestine, leading to a rapid absorption of the contents. The resulting hyperosmolar solution in the small intestine causes a shift of fluid from the intravascular space into the intestinal lumen, leading to a decrease in blood volume. The resulting hypovolemia can cause symptoms such as dizziness, weakness, and tachycardia.

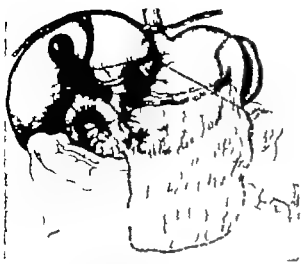
INCIDENCE OF FAILURE IN LOCAL CONTROL OF GASTRIC CANCER

	Time 1	Time 2	Percent
Ground water		92	100.0
Time 1: water in local channel		73	80.5
Remoteness in greater channel		66	50
Remoteness in local channel		9	9
Water in - perspective water in greater		19	20
Water in - perspective water in local			
Water in - perspective water in local		86	11.2
Water in - perspective water in local			6.5



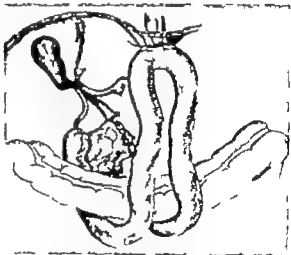
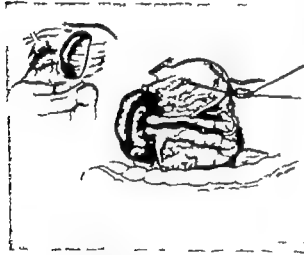
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700

[illegible]



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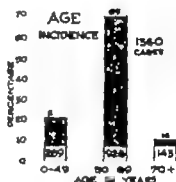
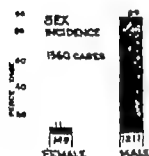
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Certificate of Merit

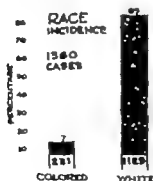
Carcinoma of the Lung

ALTON OCKNER, ROBERT J. SCHRAMMEL, JOHN B. BLALOCK,
JACK HAROLD KIRLING, and JACK A. HALEY Tulane
University School of Medicine and Ochsner Clinic
New Orleans.

This exhibit depicts the statistical evaluation of all cases of carcinoma of the lung seen on the Tulane services at the Charity Hospital of Louisiana and at the Ochsner Clinic. Operability and resectability rates through the years are presented. There is presented an evaluation of currently available diagnostic methods. An evaluation of the results of surgical treatment alone is presented as well as combined with roentgen therapy. The use of nonsurgical methods of treatment is discussed.



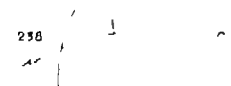
This is predominantly a disease of men between the ages of 50 and 70 years.



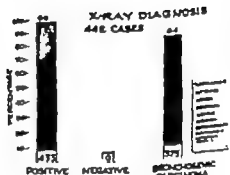
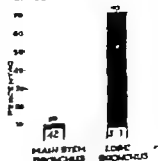
The pronounced difference in racial incidence is a reflection of the largely white patient admissions at the Ochsner Clinic. At Charity Hospital in New Orleans where white and Negro patients are seen in equal numbers there is nonetheless a definite difference in racial incidence; there were 1020 cases per 100,000 white male admissions to 597 per 100,000 Negro male admissions between 1948 and 1955.

Clinical Fellow of the American Cancer Society

238

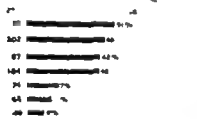


GROSS

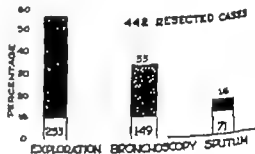


TOMES 442 CASES

24%

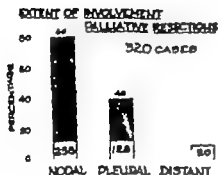
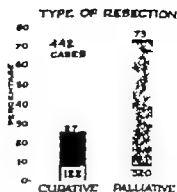
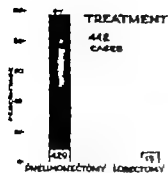


METHOD OF DEFINITIVE DIAGNOSIS



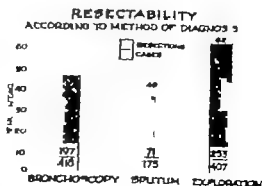
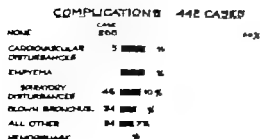
Only 24 patients in the group having resection were asymptomatic.

In only 16 per cent of patients having resection was the diagnosis made by cytologic examination of the sputum. Many of the patients in this series were seen before use of this diagnostic procedure. Positive results were obtained in 35 per cent of the patients having resection in whom cytologic examination was done.



The classification of "curative" and "palliative" resections is a surgical pathologic one indicating, respectively, confined to the lung, and metastatic or direct extension beyond the lung.

The 20 patients with distant involvement were persons who had died in the postoperative period and were found at autopsy to have distant metastases. We do not operate on patients with known extension beyond the thorax.

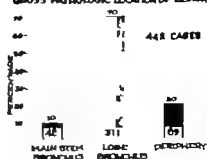


ANATOMIC LOCATION OF LESION

442 RESECTED CASES

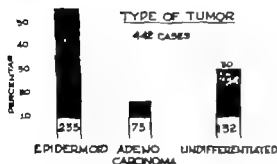


GROSS PATHOLOGIC LOCATION OF LESION



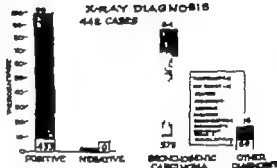
TYPE OF TUMOR

442 CASES



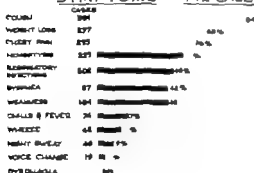
X-RAY DIAGNOSIS

442 CASES



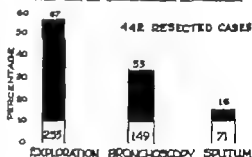
SYMPTOMS

442 CASES



METHOD OF DEFINITIVE DIAGNOSIS

442 RESECTED CASES



Only 24 patients in the group having resection were asymptomatic.

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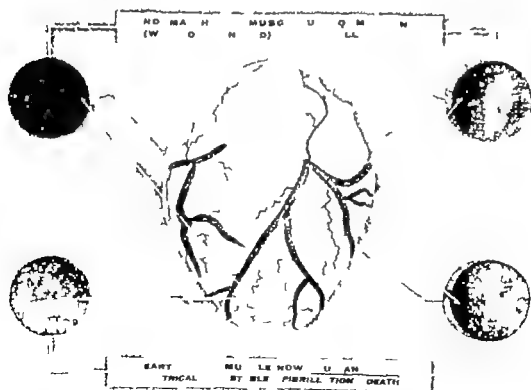
Operation for Coronary Artery Disease.

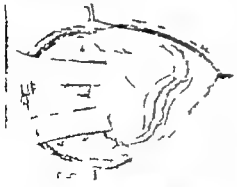
CLAUDE S. BECK, DAVID S. LEIGHNINGER, and BERNARD L. BROFMAN, University Hospitals of Cleveland, Cleveland

The exhibit shows physiological measurements of coronary flow under various conditions relating to surgical operation together with Minto-Orris backflow after occlusion of descending artery to determine rate of increase. Operative and schematic drawings are shown, as well as the selection of patients for operation. Clinical results are shown, both early and late, including mortality. Patients will be presented.

CORONARY ARTERY OCCLUSION

AFTER A CORONARY ARTERY IS OCCLUDED THE FATE OF THE PATIENT DEPENDS UPON THE AMOUNT OF BLOOD BEYOND THE OCCLUSION



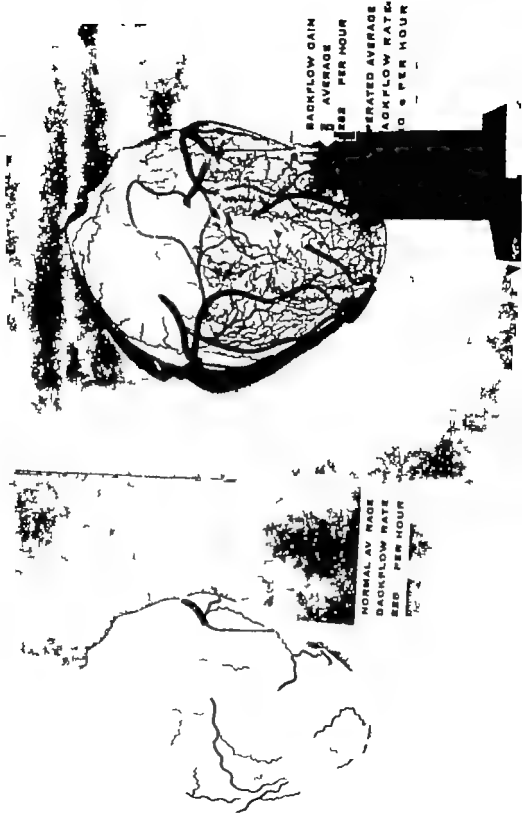


OPERATION FOR HIGH PRESSURE BLOOD SUPPLY DURING OCCUPATION



BACKFLOW MEASUREMENTS DEMONSTRATE THE INCREASE IN BLOOD SUPPLY BEYOND THE OCCLUSION PROVIDED BY OPERATION

There is no scientific evidence to indicate that medical measures add a single drop of blood to ischemic myocardium



60 consecutive patients
operated upon to correct
thyroid-mortality

Operation reduces the impact of a possible next occlusion and (by experimental proof) saves life

CLINICAL EVALUATION OF THE BECKT OPERATION

Long term follow up on 137 patients discharged six months to five years. (Average follow-up: two years)

Dead-end patients
Expected mortality 30.0%
1911

Present and future
5 years prior to
the pain
in the
Lower
Back
with
no
work
with
work

WHAT TYPE OF PATIENT SHOULD BE OPERATED?

Prophylactically for patients with bad coronary family history.

operation should be performed before there is such extensive damage that the heart dilates.

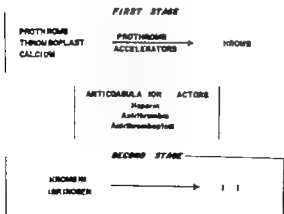
for the Routine Determination of Plasma Pro- Reference to the Control of Anticoagulant

VIN, PHYLLIS M ARSCOTT and J L. KOFFEL,
arian Hospital, Chicago.

ported Tame assay for the determination of plasma
found to combine the virtues of both the one-stage
techniques. In series of over 500 prothrombin deter-
normal plasmas and those obtained from patients individually
on variety of anticoagulant drugs, the Tame assay showed
very close agreement with the two-stage method. Furthermore
Tame assay was found to yield identical results with five different
thromboplastin preparations. In addition to its reproducibility another
important advantage of this technique is its relative technical simplicity. It
would appear that, insofar as its reliability and clinical usefulness is con-
cerned, the Tame way is satisfactory and desirable substitute for
one-stage and two-stage techniques.

According to present day concepts, blood coagulates in
two stages. In the first stage, prothrombin, in the presence of
thromboplastin, calcium and the accelerators factor V (Ac
globulin) and factor VII (SPCA) is converted to thrombin.
In the second stage, thrombin reacts with fibrinogen to pro-
duce the relatively insoluble fibrin. Present in varying con-
centrations are several anticoagulation factors such as heparin,
antithrombin, and antithromboplastin— all of which influence
the overall clotting mechanism.

The Mechanism of Blood Coagulation



As this high prothrombin assay was developed to detect and test the matter (Am J Med Sc 1953 50: 1) it was at first universally for the clinical assay of prothrombin and the subject of plasma with prothrombin depressed drug in this test consisted of a single phase in which the mixture was incubated for a certain time at the end of which the reaction was completed. The function of plasma prothrombin concentration is said to be function of plasma prothrombin concentration. However variation in the concentration of other clotting factors, especially of total fibrinogen, or failure to effect the "One stage prothrombin" test. An important advantage of the assay is the increased sensitivity of the method.

Principle of One-Stage Prothrombin Assay



The two-stage prothrombin assay as developed by Warner, Brachman, and Smith (Am J Physiol 124: 647 1938) and later modified by Ware and Sengler (Am J Clin Path 18: 471 1948) is considered to provide more accurate measure of prothrombin concentration. For the most part, the variable rate of prothrombin conversion to thrombin in this test the two phases in which blood clots are formed by process in separate steps. Defibrinated plasma, diluted to varying concentrations depending on the amount of prothrombin present, incubated with thromboplastin and calcium until no further thrombin appears. The thrombin then allowed to react with standard amount of fibrinogen and the resulting clotting time considered to be a function of the thrombin concentration. One unit of its activity by definition derived from one unit of prothrombin. Because of its complicated technique, this assay has not been accepted for general clinical use.

Principle of Two Stage Prothrombin Assay

(Warner, Brachman and Smith)

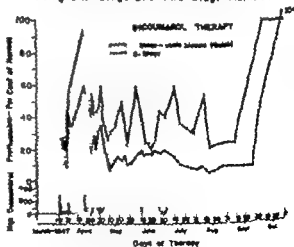
FIRST STAGE



SECOND STAGE

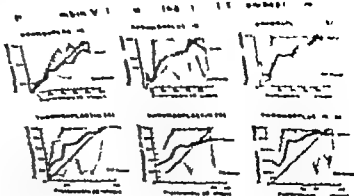


Comparative Levels of Prothrombin Using One Stage and Two Stage Methods



Partial use of the One Stage and Two Stage techniques in our laboratory over the past ten years has demonstrated that the Two Stage Procedure provides for more accurate control of anticoagulant therapy with prothrombin depressed drugs, but diminishing the dual hazards of excessive bleeding and excessive clotting (O'Brien, J H Surg Gyn and Obst 82: 423, 1950)

One of the disadvantages of the method used in the present study is that the test is carried out on a single patient. The different concentrations of the drug are given to the patient at different times. The results of the Single Procedure method, however, are not the same as those of the Two-Stage method. The results of the Two-Stage method are more reliable than those of the Single Procedure method. The results of the Two-Stage method are more reliable than those of the Single Procedure method. The results of the Two-Stage method are more reliable than those of the Single Procedure method.



The TAME Assay for thrombin as developed by Sherry and Troll (J Biol Chem 208, 93, 1954) and subsequently adopted by Gluck, Sherry and Troll (Proc Soc Exp Biol Med 57, 846, 1955) to measure plasma prothrombin is similar in principle to the Two-Stage technique in that it separates the two phases of the clotting mechanism. However, instead of adding the thrombin formed during the first stage to fibrinogen, thrombin is allowed to react with fatty organic solvent (TAME). This results in the splitting of the fatty organic ester linkage and the liberation of free carboxyl group. The amount of fatty organic thus formed is determined by titration with standard alkali. Under the conditions of the test it is assumed that the thrombin and, therefore, prothrombin concentration

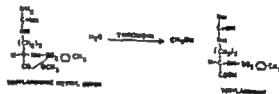
Principle of TAME Prothrombin Assay

(Gluck, Sherry and Troll)

1ST STAGE

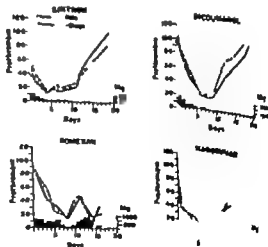


2ND STAGE



The data plotted on the adjacent graph show the results of prothrombin determinations by the TAME and Two-Stage prothrombin procedures on patients individually matched on the following antithrombotic drugs:

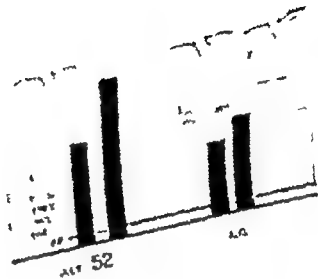
- (1) Salicin
- (2) Dicoumarol
- (3) Thrombin
- (4) Heparin



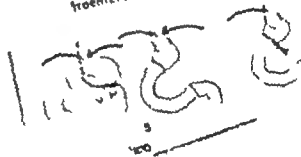
The One Stage Procedure
and the two authors (Am. J. Surg.)
most universities for the study
the control of therapy with
in his test designed as over
protection and then resection of
is said to be function of the
Hormonal concentration in the
test, procedures as well as the
the "One Stage Procedure"
of the study in the marked one

The Two-Stage Procedure Study
Brinkman, and Smith (Am. J. Surg.)
modified by Smith and Sengler (Am. J. Surg.)
was designed to provide more accurate
protection, for the most part, the
Hormonal concentration by October. In this
which blood tests are allowed to proceed in
Dehydrated plasma, which is varying
ing so the amount of protection present, is
Hormonal and calcium and so further Hormonal
Hormonal then allowed to react with
protection and the resulting effect is compared
of the Hormonal concentration. One unit of
dehydrate, derived from one unit of prothrombin
complicated technique. This study has not been
the? chemical test

Partial use of the One Stage and Two Stage
reports in the labor (over the past few years has shown
that the Two Stage Procedure provides for more
accurate control of anticoagulant therapy with prothrombin
dehydrated drugs. This demonstrates the dual hazards of an-
cessive bleeding and excessive clotting (Olsen, J. H. Surg
Gyr and One? 22, 423 1950)



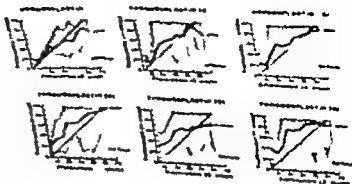
- 1 Local resection
- 2 Re-resection vagotomy gastroenterostomy



ACT 53

resection gastroenterostomy

For any of the measurements, prothrombin used in the laboratory being reported to be of highest purity. Therefore, the procedure recommended for their use (which is not the same as the procedure for their use in the laboratory) is the use of the same procedure, which should be used and not other than that of the laboratory. This was found to be the case with the prothrombin being used. The results of the measurements are shown in the following table and are not to be used as a standard for the measurements of prothrombin concentration in the laboratory.



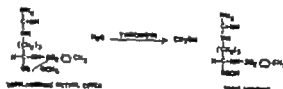
The TAME Assay for fibrinogen as developed by Sherry and Troll (J Biol Chem 228, 95, 1954) and subsequently adopted by Stock, Sherry and Troll (Proc. Soc. Exp. Biol. & Med. 87, 646, 1955) is neither plasma prothrombin is similar in principle to the Two Stage technique in that it separates the two phases of the clotting mechanism. However instead of adding the fibrinogen formed during the first stage to fibrinogen, fibrinogen is allowed to react with (acyl) groups of the ester (TAME). This results in the splitting of the acyl groups ester linkage and the liberation of free acetyl groups. The amount of acetyl groups thus formed is determined by titration with standard alkali. Under the conditions of the test it is a function of the fibrinogen and, therefore, prothrombin concentration.

Principle of TAME Prothrombin Assay (Stock, Sherry and Troll)

FIRST STAGE

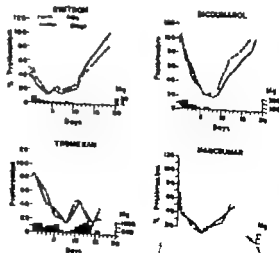


SECOND STAGE



The data plotted on the adjacent graph show the results of prothrombin determinations by the TAME and Two-Stage prothrombin procedures on patients individually mentioned in the following antithrombotic drugs:

- (1) Enoxon
- (2) Dicoumarol
- (3) Thrombin
- (4) Marcumar



be made plotted on the ordinate graph show the results of prothrombin determinations. The title and the proper prothrombin test values are printed immediately adjacent to the following sub-ordinate graphs.

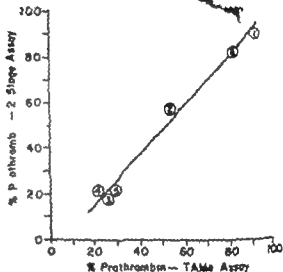
Test for
Prothrombin
Determination



Each of the six points shown on the adjacent graph represents an average of twenty TAME assays plotted against the average of the corresponding twenty Two-Stage determinations. The comparison randomly selected points on each comparison therapy were used on the following points of therapy:

- (1) Pre therapy
- (2) 24 Hour post therapy
- (3) 1st day at control level
- (4) Second day at control level
- (5) 24 Hour after cessation of therapy
- (6) Last determination

Comparison of TAME
Prothrombin Assay



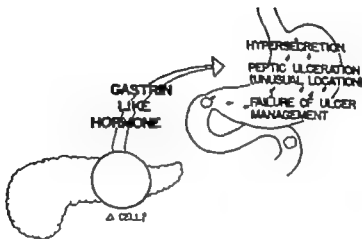
Advantages of the TAME Assay

1. Provides fast and easy chemical means for assaying plasma prothrombin concentration
2. Yields identical data with at least four different thromboplastin preparations which, in the One-Stage assay, often produce widely differing results
3. Utilizes only commercially available reagents which are readily prepared and easily maintained in control level of the reagents required for the Two-Stage assay have to be obtained from biological source material and require constant surveillance and standardization
4. Eliminates discrepancies in assay results occurring between different laboratories because of inconsistent reagent methods
5. Is more easily mastered than the Two-Stage technique
6. Is amenable to further mechanical simplification through the use of specially designed automatic titration equipment

Metastatic Tumors of the Pancreas.

Presented at the 11th Annual Meeting of the American Cancer Society, New York, N. Y., 1954.

of this new tumor of the pancreas, the results of the study of the tumor and its metastases and the results of the study of the tumor and its metastases. The tumor is characterized by the presence of a large number of small, round, uniform cells, which are arranged in a solid mass, and by the presence of a large number of small, round, uniform cells, which are arranged in a solid mass. The tumor is characterized by the presence of a large number of small, round, uniform cells, which are arranged in a solid mass, and by the presence of a large number of small, round, uniform cells, which are arranged in a solid mass.



1. FULMINATING ULCER DIATHESIS (12 hr gastric secretion 2-3 liters)
2. RAPIDLY PROGRESSIVE ULCERATION RECURRING DESPITE ADEQUATE THERAPY
MEDICAL
SURGICAL
RADIATION
3. PEPTIC ULCER AT UNUSUAL SITE

The Problem of the Nonadherent Surgical Dressing.

**JAMES F. CONNELL JR., WILLIAM PHILIP FRANK GILBERTSON
and LOUIS M. ROUSSELOT St. Vincent's Hospital, New
York.**

A criteria for the evaluation of dressings is presented. The use of the four most common dressings is compared with new dressings in five major wound types. Twenty other new materials are displayed, with microscopic analysis of the dressings mentioned above.

A systematic survey of 125 new and old dressing materials was carried out in the Surgical Department of St. Vincent's Hospital New York City during the years 1952 to 1955. Criteria for acceptability were devised from clinical requirements of five major wound categories encompassing all types of surgical lesions. Controls were employed in each instance.

The pictorial review demonstrates the use of the most promising material developed during this project and compares its properties with the four most commonly used dressing materials.

The criteria employed were

- (1) Non-adherence to wound surfaces
- (2) Porosity of material to transudates and exudates
- (3) Hypersensitivity reactions to the synthetic materials



BURN WOUNDS Extensive
second and third degree
burns of arm and thorax



XEROFORM GAUZE 5th day
post-burn dressing so adherent
that removal was impossible
without serious injury to tissues



COTTON GAUZE Dressing
applied 14th day post burn
Maceration and adherence
after 72 hours



PERFORATED FILM DRESSING
5th day post-burn dressing
adherent Note epithelium
coming off with dressing



PETROLATUM GAUZE 5th
day post-burn. Note epithelium
on dressing and weeping type
wound



**EMULSION-IMPREGNATED
RAYON GAUZE** Dressing
painlessly removed 5th day

post-burn No adherence
maceration or puddling

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- (3) Hypersensitivity reactions to the synthetic materials



OPERATIVE WOUNDS A
sutured operative wound
immediately after surgery



PETROLATUM GAUZE 4th
day post-op Dressing non-
adherent wound moist and
slightly macerated



COTTON GAUZE 4th day post-op
Dressing dry and adherent to sutures



**EMULSION-IMPREGNATED RAYON
GAUZE** 4th day post-op Dressing
easily removed. No adherence or
maceration



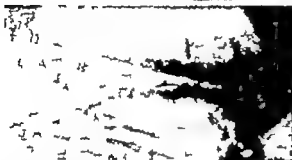
PERFORATED FILM DRESSING
4th day post-op Dressing non-
adherent wound surface wet



XEROFORM GAUZE 4th day post-
op Serum about sutures adherent
to dressing Slight maceration.



DONOR SITES Donor area
over thigh immediately after
removal of skin graft 0.022"
thick



**EMULSION IMPREGNATED
RAYON GAUZE** 5th day post-
op No adherence free
drainage Wound surface dry
Bleeding point under over-
lapping gauze



COTTON GAUZE 5th day post op
Firm adherence to wound



XEROFORM GAUZE 5th day
post-op Graft firmly attached
to gauze on attempted removal.



**PERFORATED FILM
DRESSING** 5th day post
skin excision Wound
macerated wet
Adherence with poor
drainage



XEROFORM GAUZE 5th day
post-op Maceration of wound
even though porosity appears
adequate Lower portion firmly
adherent



GRAFT SITES Deep split thickness graft applied to excised ulcer of leg and sutured in place



PETROLATUM GAUZE 5th day post-op Adherent with slight maceration



COTTON GAUZE 5th day post-op Maceration of lower half of wound Adherence has resulted in tearing portions of skin from wound



PERFORATED FILM DRESSING 5th day post op Adherent to epithelium graft elevated from bed.



EMULSION-IMPREGNATED RAYON GAUZE 5th day post op Dressing freely removed Drainage adequate without puddling or maceration.



PETROLATUM GAUZE 5th day post-op Marked adherence Note epithelium on dressing

CONCLUSIONS

1) A system for the rapid and continuous evaluation of new surgical dressing material has been developed

2) The emulsion impregnated rayon dressing when properly employed may be utilized as a wound contact dressing for all types of wounds

3) The impregnated rayon dressing allows the re-utilization of donor sites in seven to eight days for skin grafts as well as providing a clean healed wound

4) This dressing allows purulent exudate to pass through into the absorbent layers preventing maceration of the wounds

5) It provides a clean operative wound on the fourth post operative day so that further dressings are not required

6) It is the best 2 burn dressing studied

7) It is useful over graft sites as granulations or the proliferating epithelium do not adhere to the dressing

8) There have been no indications of allergic manifestations to the dressing

Proximal Resections in Head and Neck Surgery

MARTIN J. HEALY JR., BENJAMIN M. HOFFMAN, JAMES A. SUDBOY HAROLD H. NISSEL, and MERLIN K. DUVAL,
Veterans Administration Hospital, Bronx, N. Y.

The exhibit shows methods of resection of tumor patients, combining the technique of the surgeon and the ductile in immediate implantation of an acrylic prosthesis prepared preoperatively post-surgical restoration of structure, and guide plates for control of residual mandibular segment.

Carcinoma of Colon and Rectum.

RICHARD B. CATTILL, NEIL W. SWIFTON, and BENTLEY P. COLCLOCK, the Lacey Clinic, Boston.

A statistical study of the 901 patients with carcinoma of colon and rectum operated at the Lacey Clinic, 1943 to 1949 will be presented. Reliability rates, types of operations employed, mortality causes of death, and end-results obtained in this series are given. Significance of blood vessel and lymph node invasion will be emphasized.

Postoperative Thromboembolism.

HOWARD S. MACKAY, HUGH H. HUGHES, and PHILIP A. CAVELFIELD, Georgetown University Medical Center Washington, D. C.

The prevention, recognition, and management of venous thrombosis and pulmonary embolism are presented by means of illustrations, discussion, and charts. Emphasis is placed on the predisposing causes and preventive measures, as well as the close relationship of these two entities.

Pathology of Esophageal Obstruction due to Carcinoma with a Permanent Intraluminal Tube.

S. A. MACKLER and G. RARD, Chicago Medical School, Cook County and Michael Reese hospitals, Chicago.

Revisions of the esophagus for carcinoma, even for the sole purpose of palliation of obstruction, without the expenditure of care, is frequently impossible. This is particularly true of lesions of the upper and middle portions. A method is demonstrated whereby palliation of obstruction may be achieved by the introduction of permanently indwelling tubes. The tube is inserted at the time of thoracic exploration. When it is determined that resection of the esophagus is not feasible.

Ventricular Septal Defect Diagnosis and Surgical Treatment.

H. B. BURCHILL, R. O. BRANDENBURG, H. J. C. SWAN, D. E. DONALD, A. J. BRIDGER, J. W. DUGAN, H. G. HANSEN-BARKER, J. E. EDWARDS, J. W. KIRKIN, and H. H. WOOD, Mayo Clinic and Mayo Foundation, Rochester Minn.

It is important to recognize the varied clinical syndromes produced by ventricular septal defects now that surgical repair of these defects is being accomplished. These syndromes, and their relation to the size and location of the defect and the magnitude of pulmonary resistance, are illustrated and described. The pathological anatomic features of ventricular septal defect are demonstrated by models. Roentgenologic, electrocardiographic, and clinical features pertinent to the diagnosis of the malformation are depicted. Hemodynamic data are correlated with other observations in cases of ventricular septal defect. The technique for repair of ventricular septal defect by open cardiostomy while the patient is supported by mechanical pump-oxygenator is shown. The results of surgical repair support the belief that operation is indicated for patients with large left-to-right shunts across ventricular septal defects.

Orthoradial Arterial Disease of the Lower Extremity—Clinical, Laboratory and Radiographic Correlations.

JOHN J. CRANLEY and RAYMOND J. KRAUSE, Good Samaritan

and Cincinnati General hospitals, Cincinnati.

The exhibit presents method of grading the severity of obstructive arterial disease of the lower extremity by clinical examination alone. Laboratory data confirming the validity of the clinical method and demonstrating its effectiveness and limitations of therapeutic methods affecting vasodilation in the foot will be included. Indications for arteriogram and direct arterial surgery will be suggested. In addition, an electronic digital plethysmograph and flow occluder will be demonstrated.

Hypothermia in Cardiovascular Surgery

MAX S. JADOFF, OYMANO C. JULIAN, and MYRON J. LEVIT,
Veterans Administration Hospital, Hines, Ill.

The exhibit shows the types of hypothermia, the indications for each, examples of each type, the description of the method of producing hypothermia (with the actual apparatus in operation as part of the exhibit) and the physiological changes and hazards in this technique.

Blood-Oxygenator

FRANK GOLLAM, JAMES T. GRACE, and WALTER G. GORRELL JR., Veterans Administration Hospital and Vanderbilt University Medical School, Nashville, Tenn.

This exhibit demonstrates small, inexpensive blood-oxygenator. It is used for the prevention of coronary shock, the production of hypothermia by blood cooling, and in the bypass of the heart and lungs for open cardiac surgery.

Operative Cholangiography

C. ALLEN WALL and S. PATRICK PRANTNER, St. Louis University Hospitals, St. Louis.

The routine use of operative cholangiograms with biliary tract surgery is still subject of controversy among surgeons. Few limited conservative operative cholangiograms performed in the St. Louis University Hospitals have been analyzed in an effort to clarify this issue. Results of this study are presented.

Perineal Affirmation.

WILLIAM E. ARNOTT HARVEY KROGER, and STANLEY LEVIT
University Hospitals of Cleveland and Western Reserve University School of Medicine, Cleveland.

This exhibit depicts the metabolic deficits that occur in injured and ill patients. Deficits of nitrogen, calcium, electrolytes, and water are dependent on the intake of the specific nutrient (especially sodium and nitrogen) anabolic losses, and internal shifts (particularly as regards to fluid and electrolytes). By means of data obtained from metabolic balance studies, the magnitude of these deficits is shown; the therapy that should be employed to correct them is also shown.

The Pathology and Surgery of Parathyroid Gland Neoplasms.

ROBERT S. TUTTLE, JOHN C. GARDNER, and DWIGHT C. HANNA, Presbyterian Hospital, Pittsburgh.

The theme of this exhibit is that parathyroid gland neoplasms may be divided into three groups on the basis of their histological picture and clinical behavior. Group 1 includes those tumors that are benign but have distinct tendency to recur. Group 2 includes those tumors that are of low-grade malignancy. Group 3 includes those that are highly malignant.

The Surgical Management of Regional Enteritis.

HENRY R. HAWTHORNE, ALFRED E. PROCTOR, and PAUL NEMER JR., Graduate Hospital, University of Pennsylvania School of Medicine, Philadelphia.

The clinical features of regional enteritis are presented. Examples of characteristic radiographic pictures observed in diagnosis are shown. A detailed description of the surgical pathology of this entity is illustrated with color transparencies representing the variety of lesions that were encountered. The indications for operation and the selection of the operative procedure are discussed, emphasizing the results in careful follow-up from 1 to 25 years after surgery.

Controlled Respiration in Surgery and Resuscitation.

ARCHER S. GORDON, CHARLES W. FAYE, and HERMAN T. LANGSTON, University of Illinois College of Medicine and Chicago State Tubercular Sanatorium, Chicago.

The exhibit features the blood pressure breathing curve for surgery and resuscitation. The physiological factors concerning the ventilatory and circulatory dynamics are analyzed, and variations for use in open chest and closed chest cases are detailed. Fundamental reasons for each portion of the pressure profile are presented on the basis of detailed animal and human studies. A two-cycle, pressure-controlled, mechanical unit for production of this ideal breathing curve is demonstrated.

The Multiple Injury Patient

ROBERT H. KINNEY, LESTER BLUM, BENJAMIN A. PAYSON, and BEN F. BRYER, Beckman Downtown Hospital, New York.

This is presentation of the problems involved in the care of the patient who has received multiple injuries. The treatment of shock, transportation of the patient to and within the hospital, the selection of diagnostic facilities, and the organization of surgical teams for proper care are all considered. The importance of having team captain who organizes the treatment and suppresses the activities of each of the specialists is emphasized.

Anemia Following Gastrectomy

H. J. MCCORMICK, DWIGHT H. MURRAY JR., DEAN L. MAWDELEY, and HAROLD A. HAMPER, University of California Medical School, San Francisco.

The exhibit presents experimental and clinical studies on the causes and treatment of anemia following partial and complete gastrectomy. This includes observations on the absorption of iron and Vitamin B₁₂ as well as radioactive iron and C¹⁴-labeled vitamin B₁₂. The effect experimentally produced anemia on the absorption of iron is demonstrated. The application of this information to the prevention and treatment of anemia in postgastrectomy patients is included.

Variations of Intestinal Peristalsis: A Correlation of Clinical, X-ray and Pathological Findings.

LEROY H. STANLORD, LORNO E. SYLVESTER, and L. KRAIER FELDCHOW, Woman's Medical College Hospital, Graduate Hospital, University of Pennsylvania, and Philadelphia General Hospital, Philadelphia.

The exhibit is designed as teaching aid to assist physicians to recognize and understand the variations in peristaltic norms. The need for such teaching device arose because of the difficulty in ascertaining on each occasion sufficient clinical material for teaching purpose. It is felt that after liberating the record physicians will be better equipped to evaluate these important clinical findings. The pre-operative x-rays and colored transparency of the obstructing lesion are demonstrated synchronously with variations in intestinal peristalsis as recorded from patients exhibiting these findings. At this moment, an excellent correlation is obtained between clinical findings, x-rays and the pathologic lesion.

The Radio Corporation of America, assisted in the project.

Tumors of the Hand.

JOSEPH L. POSCH, ROBERT D. LARSEN, KENNETH, and WILLIAM O. MINTUNY, City of Detroit Hospital and Wayne University College, Detroit.

This exhibit consists of a description of the various tumors encountered in the hand. Fibrosarcoma, malignancy, and benign tumors are discussed. A description of the common tumors is given. In addition, the characteristic features of the more unusual tumors are also discussed. Symptoms, diagnosis, and treatment are summarized.

Techniques in Abdominal Surgery

JOHN L. MADDOCK, WILLIAM J. MCCANE, and JOHN M. LORD JR., St. Clare's Hospital, New York.

This exhibit consists of series of illustrations drawn from observations during the actual operations. The illustrations depict in minute detail the complete surgical technique in the performance of the following operations: (1) intraductal resection of the vagus nerve and associated gastroenterostomy; (2) radical right hemicolectomy; (3) radical left hemicolectomy; (4) total gastrectomy partial pancreaticoduodenectomy; (5) one-stage ileocectomy and colectomy; (6) splenectomy; (7) ligature herniorrhaphy; (8) ligation of the inferior vena cava; and (9) end-to-side peritoneal anastomosis.

Adrenocortical Tumors and Hyperplasia: Diagnosis and Treatment.

JAMES D. HARDY, University of Mississippi Medical Center, Jackson, Miss.

The exhibit consists of transparencies and charts depicting diagnosis (including steroid analyses), symptoms, and total management of series of patients with either adrenocortical tumor or hyperplasia. A functioning syndrome in man, the adrenocortical syndrome, and Cushing's syndrome are all portrayed including both stress, children and adults, cortical hyperplasia, and both benign and malignant tumors. Hormonal therapy, operative approaches, newer concepts, and broad principles of management are presented.

Streptomycin Intramuscularly in the Treatment of Infection and Edema.

JOSEPH M. MILLER, JOHN A. SOROMONTE, and MELTON GREENBERG, Veterans Administration Hospital, Fort Howard, Md., and FRANK B. ARLEND, Lederle Laboratories, Pearl River N. Y.

A large number of patients with infection and edema have been treated by the administration of the antibiotic drugs and the intramuscular injection of streptomycin with excellent results. The exhibit reviews this work. The apparent mechanism of action of streptomycin and the results of experimental investigation in rabbits are presented together with results of treatment of eight patients, selected because they had various conditions. The observations on the use of the drug, the dosage, and the precautions concerning use are included.

Restorative Restorations in Hand

MARKIN J. HEALY JR., RZ
SUDBOY HAROLD H.
Veterans Administ

Certificate of Merit

The exhibit shows method
using the technique of d
restitution of an acryl
applied restoration of a
natural mandibular ap-

Bladder Substitutes: An Experimental Study in Dogs.

ALBERT E. GOLDSTEIN, B. S. ARISHOUS, CATER YUDIRAN,
MILTON GOLDFARB, and HANNAH SILBERSTEIN, Hoff
berger Urological Research Laboratory, Sinai Hospital
and University of Maryland School of Medicine
Baltimore

Carcinoma of Co

RICHARD B.
COLER

A statement
section of
Research
of the
of life

Various experimental procedures on dogs have been aimed out to substitute urinary bladder. The ureter, the levator d. term., the sigmoid, and homograft bladders have been used to replace the urinary bladder. Some of the procedures have been performed previously. In others as original the authors. Photographs in parentheses of dogs, and photographs are displayed.



PURPOSE OF THE EXHIBIT

Our research in bladder substitutes dates back to 1947 when Rubin and the senior exhibitor (A. E. Goldstein) produced an artificial bladder from a piece of sigmoid in a one-stage procedure. Since that time we have been quite interested in other bladder substitutes.

This exhibit is the result of the experimental work of the past nine years at the Hoffberger Urological Research Laboratory at Sinai Hospital Of Baltimore, Inc.

Section on Urology

Our purpose in this exhibit was to demonstrate drawings of procedures roentograms of the urinary tract at varying periods of time during the experimentation gross specimens as a result of the experiments roentograms and specimens of the urinary tract at the time a dog was sacrificed for study and roentograms and specimens of the urinary tract including the substitute bladder at the time a dog was autopsied

We demonstrated total bladder substitutes which is a new concept This necessitated storing and freezing bladder tissue When stored the tissue was placed in Ringer's Solution with an antibiotic at 0° C for one week or more or the tissue was stored in deep freeze at -20° C for the same period of time The tissue remained more viable when the deep freeze was not employed

We described concisely some of the studies complications and results and arrived at certain conclusions

Partial And Total Substitute

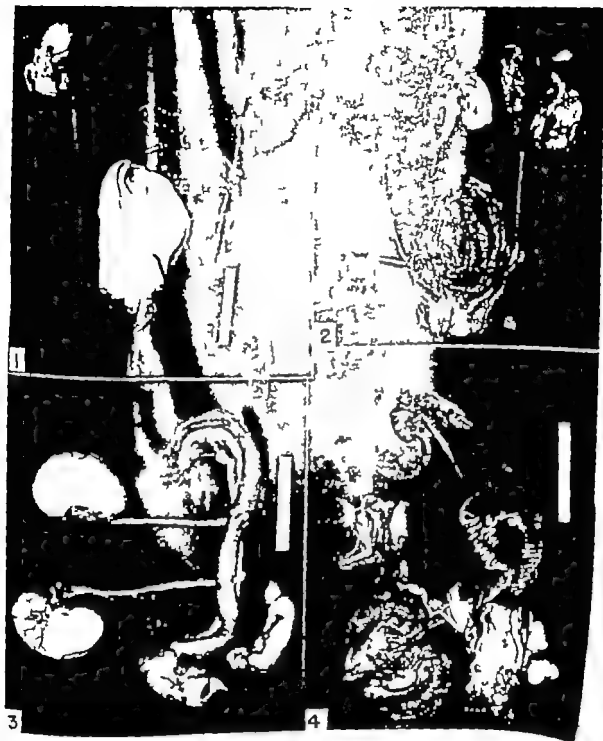
Bladders In Dogs

Dog Studies

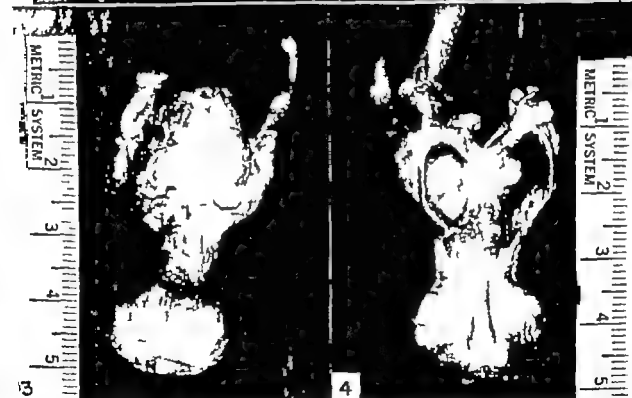
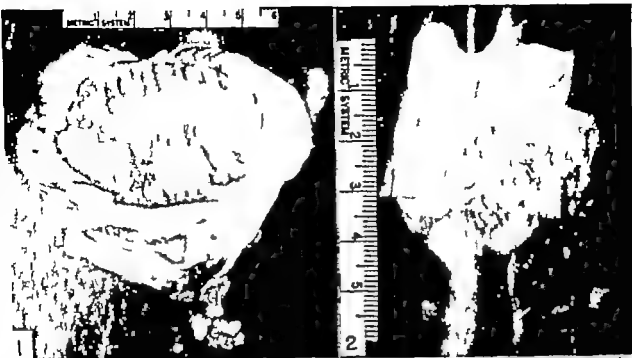
Organs Employed	<u>No</u>	
1 Sigmoid Colon	12	1 Pre P O & P M
2 Ileum & Reversed Ileum	12	Pyelographic Studies
3 Neo-Cecum	2	2 Electrolyte Imbalances
4 Partial & Total Bladder		3 Nitrogenous Blood Studies
Autografts	13	4 Sacrificed & Autopsied
5 Bladder Homografts	<u>10</u>	Specimens
Total	49	



- 1 SIGMOID BLADDER -- CYSTOGRAM
- 2 SIGMOID BLADDER -- P M SPECIMEN -- 30 DAYS P O
- 3 SIGMOID BLADDER -- RETRO PYELOG -- 8 MONTHES P O
- 4 SIGMOID BLADDER - SPECIMEN -- 5 2/3 YEARS P O



- 1 TOTAL ILEUM BLADDER TO URETHRA NOT INVERTED
- 2 TOTAL ILEUM BLADDER TO URETHRA INVERTED
- 3 TOTAL ILEUM BLADDER TO SKIN
- 4 TOTAL ILEO-CECUM BLADDER TO SKIN



- 1 AUTOGRAFT BLADDER TO DOME
- 2 SUBTOTAL HOMOGRAFT BLADDER
- 3 TOTAL HOMOGRAFT BLADDER -- POSTERIOR VIEW
- 4 TOTAL HOMOGRAFT BLADDER -- ANTERIOR VIEW

RESULTS

Our results have been variable

1 / Nine of the dogs with sigmoid bladder fixation to 5 2/3 years with perfect continence

2 Six of these were sacrificed and the urinary tract found in good condition

3 Several of the bladder substitutes of ileum or ileo-cecum whether partial total reversed or otherwise died from peritonitis because of technical error while others lived from 3 to 7 months at which time they either died or were sacrificed. In all these cases there were no disturbances to the ureters or kidneys with an exception of a unilateral hydronephrosis in one case

4 The results of the autograft bladder substitution were practically the same as the ileum substitution with from fair to good results

5 The homograft substitutes gave surprising results: Two of the bladders took satisfactorily and gave promise for the building of a bladder bank which has already been started

6 There were electrolyte imbalances and elevation of blood nitrogenous products in all the dogs where these studies were made but returned to normal within ten to fourteen days

7 Pyelographically there was very little distortion of the outline of the pelvis or calyces with demonstration of good function

CONCLUSIONS

- 1 Experiments on bladder substitutes in dogs react quite differently than in humans because of less control
- 2 Cutaneous urinary drainage as is obtained in substituting the ileum or ileo-cecum for a bladder in dogs is feasible and is a better procedure than a ureterocutaneous one
- 3 Partial ileo-bladder substitutes serve satisfactorily in dogs for increasing the capacity Good urinary control has been obtained
- 4 Total ileo-bladder and reversed ileo-bladder substitutes presented viable organs and warrant further study
- 5 Sigmoid bladder substitutes have given excellent results in dogs
- 6 Immediate and cold-stored autogenous and homogenous bladder replacements have taken satisfactorily in some cases Deep freezing the tissue has not been as successful
- 7 Uretal transplantation in the small or large bowel offers less disturbances to the kidney if the bladder substitute portion is separated from the continuity of the rest of the bowel
- 8 Electrolyte imbalances and increases in blood nitrogenous products have been encountered in the beginning in ileo-bladder substitutes but gradually returned to normal

Reversible Hypertension due to Renal Artery Disease.

EDGENT F. POUTASSE, WILLIAM J. ENGEL, and HARRIET DUSTAN, Cleveland Clinic, Cleveland.

Renal artery disease can produce hypertension that is destructively malignant, especially in young men. Renal artery thrombosis may be followed by accelerated form of hypertension, vascular disease. Renal artery narrowing does not inhibit proliferation of arteriosclerotic plaques produces similar hypertensive state but onset is more heakdom. Visualization of the arterial defect by aortography and demonstration of diminished excretory function in the affected kidney establish the diagnosis. Nephrectomy or arterial graft, if the kidney is intact, should reverse the hypertension, vascular disease.

LESIONS OF THE RENAL ARTERY CAN PRODUCE HYPERTENSION THAT IS DESTRUCTIVELY MALIGNANT ESPECIALLY IN YOUNG MEN. RECOGNITION OF THIS CAUSE OF RENAL HYPERTENSION IS IMPORTANT FOR IT IS REMEDIABLE.

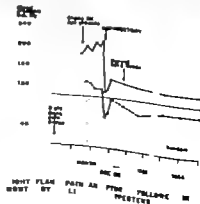
STEPS IN DIAGNOSIS

- HISTORY OF ONSET OF HYPERTENSION
ACCELERATED TYPE OF HYPERTENSIVE ASCURD DISEASE
FLANK PAIN MAY ACCOMPANY TYPE TENNIS
NO FAMILY HISTORY OF HYPERTENSION
- DIMINISHED EXCRETORY FUNCTION IN AFFECTED KIDNEY
- UROGRAPHY { FOCAL CALYCEAL TACPH
REDUCTION IN RENAL AREA
MAY BE NO LESION
- VISUALIZATION OF RENAL ARTERY BY ANGIOGRAPHY



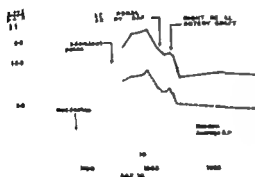
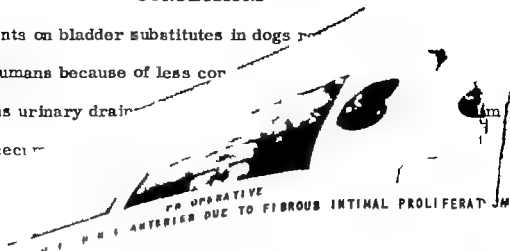
Case #1

THROMBOSIS WITH PATENT BRANCH
MODEL SHOWING LOCATION OF THROMBUS AND RENAL INFARCTION

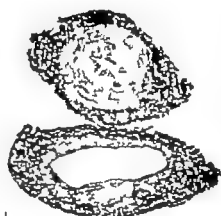


CONCLUSIONS

- 1 Experiments on bladder substitutes in dogs more successful than in humans because of less connective tissue
- 2 Cutaneous urinary drainage more successful than ileo-cecocolostomy



HYPERTENSION IN OVER 80% OF SCHOOL PHYSICAL EXAMINATIONS BEFORE SURGERY



POSTOPERATIVE
ARTERIAL HOMOGRAFTS WERE USED TO RESTORE RENAL CIRCULATION

Malignant Hypertension
 CASE 1: AGGRESSIVE HYPERTENSION
 SUBCL MALIGNANT PHASE IN
 PRE-EXISTING HYPERTENSION

COLLECTING END COURSE

NEPHRECTOMY - 1941
 NEPHRECTOMY - 1942
 NEPHRECTOMY - 1943

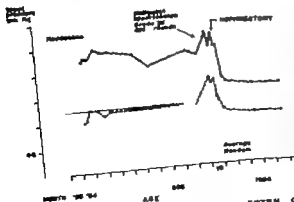
HYPERTENSION IN YOUTH
 (Diagnosed at 12 years)

ARTERIAL HEMOCRAFTS - 1944

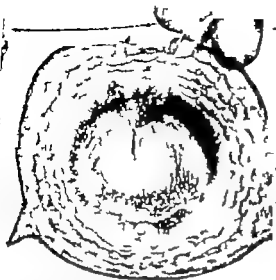


PLAQUE WITH JET CABBING DILATATION OF LEFT RENAL ARTERY
 POINT OF CONSTRICTION IS JUST BELOW THE NEEDLE

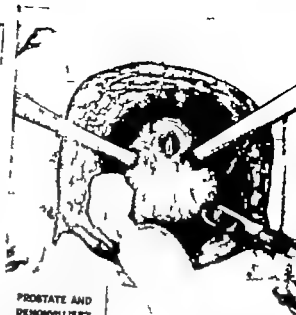
CASE 53



LEFT PLASMA PAH 5 YEARS AGO KNOWN BY HYPER-
 3 YEA 3 5 ODER ONSE OF MALIGN T HYPER-
 NSIO



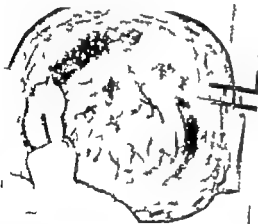
DEMONVILLIER'S
FASCIA AND PRO-
STATE EXPOSED. MEM-
BRANOUS URETHRA
IS OPENED ON
DORSAL (POSTERIOR)
TO EXTERNAL
SPHINCTER



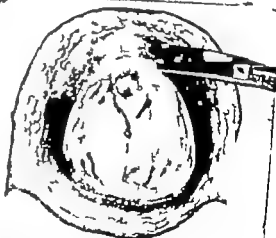
PROSTATE AND
DEMONVILLIER'S
FASCIA EXPOSED
AFTER BLUNT RE-
TRACTION OF
FASCIA

6

7



ANTERO-LATERAL
FASCIA PUSHED
LATERALLY YOUNG'S
TRACTOR INTRODUCED



MEMBRANOUS
URETHRA BEING
DIVIDED

8

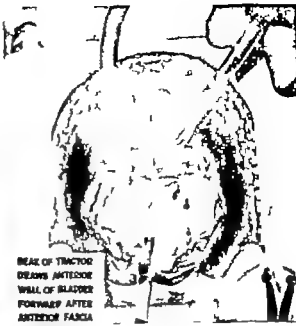
9

1510

ANTERIOR SURFACE
OF PROSTATE EX-
POSED BY BLUNTLY
DISSECTING THE
PLEXUS OF SAN-
TOINI USING
TRACTION ON
PROSTATE

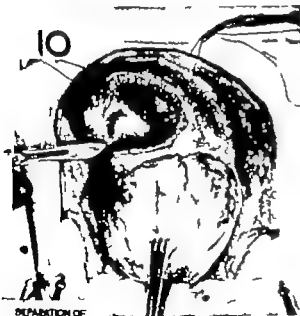


BEAK OF TRACTOR
DEANS ANTERIOR
WALL OF BLADDER
FORWARD AFTER
ANTERIOR FASCIA
PUNED AWAY FROM
BLADDER. SCALPEL
INTRODUCED THROUGH
BLADDER IN MID
LINE AT JUNCTION
WITH PROSTATE



10

SEPARATION OF
BLADDER NECK
FROM PROSTATE
CLOSE TO VESICO-
PROSTATIC JUNC-
TURE



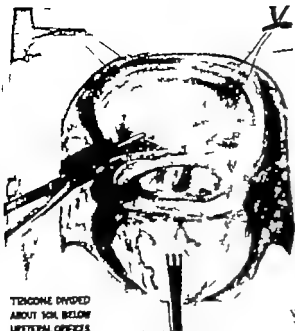
11

FLOOR OF BLAD-
DER IS EXPOSED.
TRIGONE, URETERS
AND PROSTATE
SEEN



12

13



13
TINCONE DIVIDED
ABOUT 1CM. BELOW
MEATURAL ORIFICE,
ALLOWING RETRORAL
OF PROSTATE WITH
CUFF OF BLADDER



14
BLADDER AND
TINCONE PUSHED
UPWARD EXPOSING
SEMINAL VESICLES
AND HIGH DEFEREN-
TIA



15
VAS DEFERENS
CLAMPED AS HIGH
AS POSSIBLE BUT
WILL HINDER URINE

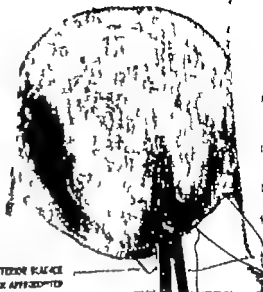


16
DR. VEST'S TECH-
NIQUE OF CLOSURE.
TRACTION SUTURES
THROUGH URETHRA
TO SUBCUTANEOUS
TISSUE IN PERINEUM



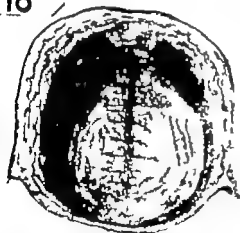


SUTURES TIED
ON PERITONEUM,
TRACTION PED-
DLES COO SIGH-
MOID COLON APPROX-
IMATION AND MOVING
INJURY TO IN-
TERNAL URINARY
SPHINCTER.



POSTERIOR RECTAL
NECK APPROXIMATED
WITH INTERRUPTED
SUTURES TO INCREASE
SIZE OF VENOUS
OUTLET

18



DIRECT ANAS-
TOMOSES OF NEW
BLADDER NECK
TO VENTRAL POR-
TION OF URETHRA
PROXIMAL TO
SPHINCTER

19



LEVATOR ANI
MUSCLES APPROX-
IMATED IN MID LINE.
ANASTOMOSES IS
DRAINED

20

21

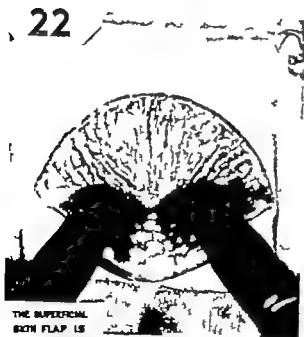


SKIN CLOSURE
WITH INTERRUPTED
SILK

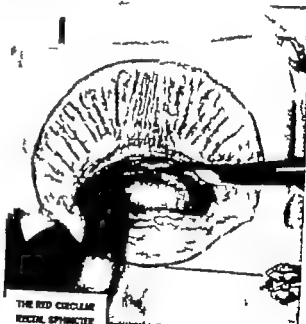


THE CURVING
HIGH SASH LINE IS
 $\frac{1}{2}$ CM. FROM THE
MUCO-CUTANEOUS
JUNCTION OF THE
RECTUM

TECHNIQUE OF
AN ELMER BELT



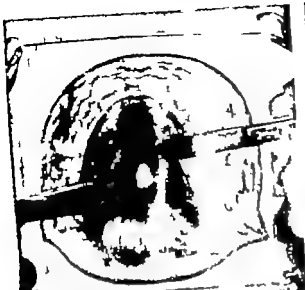
THE SUPERFICIAL
SKIN FLAP IS
PULLED DOWN,
STRETCHING THE
FIBERS OF THE
MEDIAN RAPHE
BEFORE THEY ARE
CUT



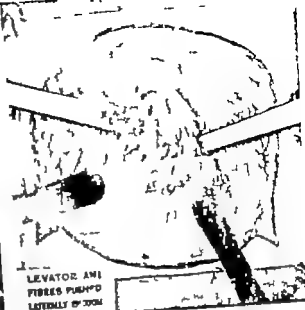
THE RED CIRCULAR
RECTAL SPHINCTER
IS EARLY PUSHED
UPWARD AWAY FROM
THE DARKER WHITE
LONGITUDINAL
FIBERS OF THE
RECTUM

2

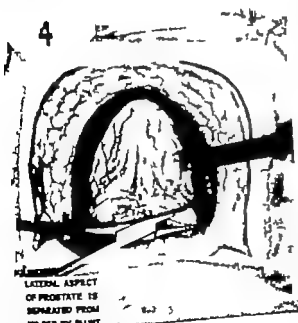
3



THE LATERAL AND
MUSCLES ARE
BILATERALLY SEP-
ARATED FROM ONE
ANOTHER IN THE
MID LINE

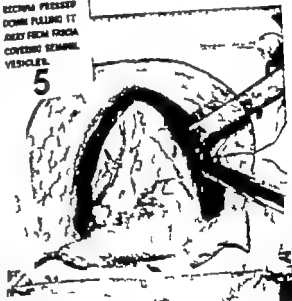


LEVATOR ANI
FIBRES PULSED
LATERALLY TO
REVEAL WHOLE
POSTERIOR ASPECT
OF PROSTATE,
THROUGH PERI-
VASCULAR FASCIA.
RECTUM PRESSED
DOWN PULLING IT
AWAY FROM FASCIA
COVERING SEMINAL
VESICLES.



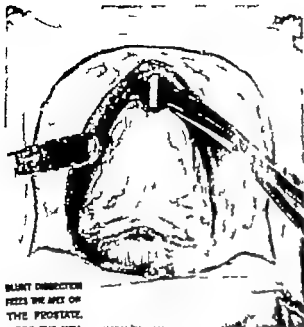
LATERAL ASPECT
OF PROSTATE IS
SEPARATED FROM
ITS BED BY BLUNT
DISSECTION, ISO-
LATING PEDICLE.
PUT INDEX FINGER
BY PRESSING
HANDLE OF SCISSOR
TOWARDS THE BASE
OF PEDICLE.
ISOLATION.

6

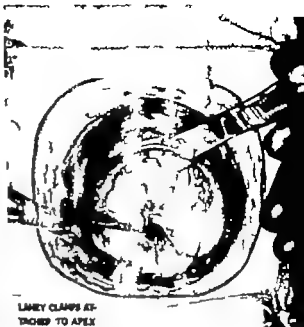


THE BUNDLE OF
VESSELS DIVIDING
THE PROSTATE AT
EACH LATERAL
SUPERIOR BORDER
IS ISOLATED, CUT
BETWEEN CLAMPS,
AND SUTURED.

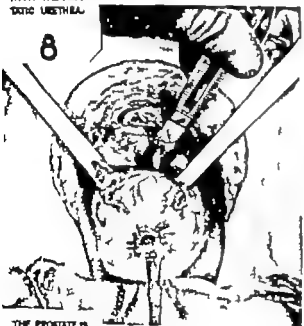
7



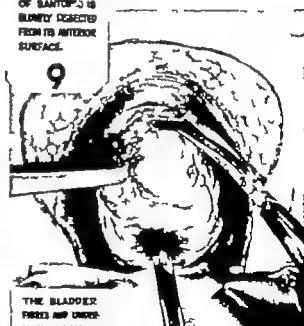
BLUNT DISSECTION
FREEZES THE APEX OF
THE PROSTATE.
HERE THE MEM-
BRANOUS URETHRA
IS CUT ACROSS
AGAINST A SOUND
AT ITS JUNCTION
WITH THE PRO-
STATIC URETHRA.



LONG CLAMP AT-
TACHED TO APEX
OF PROSTATE
ASSIST IN DRAW-
ING PROSTATE
FROM THE SOUND
AS VESICAL PLEXUS
OF SANTORINI IS
SLIGHTLY DISSECTED
FROM ITS ANTERIOR
SURFACE.



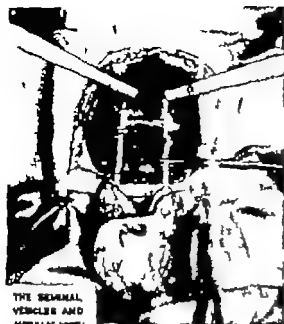
THE PROSTATE IS
FREED BY BLUNT
DISSECTION DOWN
TO AND VISUAL-
IZING BLADDER
NECK FIBERS



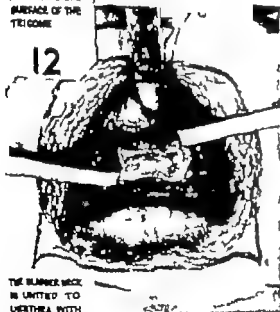
THE BLADDER
NECK AND UNDER-
LYING MUCOSA
ATTACHED TO THE
PROSTATE AT THE
NECK OF THE
BLADDER ARE CUT
AWAY WITH SCISSORS
AROUND ITS ENTIRE
CIRCUMFERENCE

10

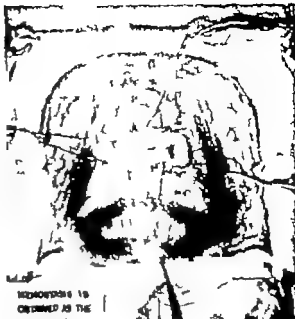
11



THE SEMINAL VESICLES AND AMPULLAE WHICH REMAIN ATTACHED TO THE EPIDIDYMUS ARE PRESSED BY ORGANS TRACTION FROM THE UNDER SURFACE OF THE TIE COME



THE BLADDER NECK IS UNITED TO URETHRA WITH DOUBLE ZERO CHROMO CROUT SUTURES. THE 12" IS PLACED ANTERIORLY AS CATHETER PASSER THROUGH URETHRA IS ELEVATED.



NEEDLES ARE OBTAINED AS THE BLADDER NECK IS UNITED TO URETHRA WITH 3 ABSORPTIVE SUTURES, ONE PLACED POSTERIORLY AND 2 LATERALLY.



THE BLADDER NECK IS UNITED TO URETHRA WITH 3 ABSORPTIVE SUTURES, ONE PLACED POSTERIORLY AND 2 LATERALLY.

15



CONTINUITY OF URETHRA AND BLADDER NECK NOW EFFECTED. A COVERING LAYER IS PLACED BY TAGGING AND OVERLAPPING FASCIA OVERLYING RECTUM TO MAINTAIN CONTINENCE BEYOND SUTURE LINE.

16



A FINE-SUTURED SUTURE APPROXIMATES THE EXTERNAL RECTAL SPHINCTER FIBERS TO THE ANAL RING. INTERRUPTED SUTURES REAPPROXIMATE THE SUPERFICIAL FASCIAL PLANES.

18



INTERRUPTED SUTURES BRING THE LEVATOR ANI MUSCLES TOGETHER OVER THE RECTUM. VESICAL ANASTOMOSES. A 5/8 PDS SUTURE IS PASSED BETWEEN THE LEVATORS.

17



THE SKIN IS CLOSED WITH A CONTINUOUS SUBCUTICULAR SUTURE OF CHROMIC CATGUT.

19

Demonstration of Techniques of Endoscopic Prosthetic Surgery

LOUIS W. BARNES, RODNEY D. TURNER, R. THEODORE BERGMAN, and HENRY L. HADLEY, Los Angeles.

Methods and drawings illustrate the progressive steps in the technique and for the removal of the prostate gland via the transurethral approach.

The Underscanned Testis Problem.

NORMAN J. HICKEL, JAMES H. McDONALD, and JAMES A. CALAMAS, University of Illinois College of Medicine and Presbyterian Hospital, Chicago.

The exhibit emphasizes the endocrine and surgical treatment of the underscanned testis. Fluoroscopies of scrotal and underscanned testes at various ages emphasize the necessity of treatment at an early age. Division of location and pathological anatomy of testes that do not normally descend is illustrated by drawings (camera) about 1/2 inch in size.

The Tind-T—A New Portable Radiographic Unit for Use in Surgery

DONALD E. BUEER and CHESTER WINKER, University of California Hospital, Los Angeles.

A new radiographic unit has been developed, using radioactive thallium-170 for the energy source. This is intended for use in the operating room, particularly to aid in the search for the elusive renal calculus. The characteristics of the isotope, thallium-170, are presented. The technique for use of the unit is discussed. Representative radiographs are presented.

A Modified Method for Handling and Administering Radioactive Gold in Carcinoma of the Prostate.

WILLIAM J. BLAKE, EDWIN C. GRAF, EDWARD LUTHERBICK, I. F. HEDGECOCK, D. H. CALLAHAN, and RAYMOND FRISER, Chicago.

Photographs and equipment demonstrate remote handling of radioactive gold and administering the Au¹⁹⁸ under pressure without undue exposure by the team. A descriptive paragraph describes each stage of the procedure.

Penile and Scrotal Injuries.

RALPH J. HOLLOWAY, DAVID A. COLP and W. C. HUFFMAN, University Hospitals, Iowa City Iowa.

Technique for repair of eversion of the skin of the penis and scrotum is illustrated. Case studies show preoperative, operative, and postoperative results.

Undersphyx

DAVID A. COLP, HANS KROMAWEITER, and RICHARD PORTO, University Hospitals, Iowa City Iowa.

Technique of Intrauterine-Douglas Brown undersphyx is illustrated. Preoperative and postoperative undersphyxograms demonstrate improvement in twisted colliculus and voiding.

Hydrocephalus, Secondary to Obstruction in Lower Urinary

MICHAEL K. O'HERRON and JAMES R. FINE, St. Joseph Hospital, Houston, Texas.

A series of pictures, drawings, and photographs of x-rays show cases of hydrocephalus secondary to obstruction in the lower urinary tract. Special emphasis is placed upon the changes secondary to carcinoma of the prostate cavity. The principles of treatment are discussed, with emphasis upon the use of a flap of bladder as substitute for the lower portion of ureter.

Salicylate Therapy for Recurrent Calcium Urinary Stones.

EDWIN L. FRIED and RICHARD S. WALKER, Boston University School of Medicine, Boston.

Orally given salicylate therapy preferably by salicylamide, in doses of 2 g. daily has prevented recurrence of calcium-oxalate calculi in

series of 15 cases. In 16 cases of recurrent stones by the urinary tract, the technique of salicylate therapy is described.

process of active stone formation. The original study of 19 patients there has been no stone growth in 16 cases as a result of daily salicylate. There is no evidence of urinary infection, azotemia, or irreversible obstructive lesions of the urinary tract in some patients. Inhibition of stone formation in patients with alkaline urine has been accomplished. The mechanism appears to be of calcium salts through urinary glucosuria. It is a salicylate therapy possibly associated with

A Clinical Study of Renal Function Tests The Radioactive Diodrast Renogram

CHESTER C. V. and GEORGE V. TAYLOR, Wadsworth Veterans Administration Hospital and University of California at Los Angeles, Los Angeles.

The test is a direct-reading graphic record of the renal uptake and excretion of diodrast-131 through the use of external gamma-ray scintillation techniques. It immediately provides relatively reproducible data on individual renal vascular-tubular cell secretory function, and renal parenchyma, with little or no discomfort to the patient. The testing equipment is simple, the technique is explained, and the responses for various tubular disorders are presented.

A Bacteriocidal Additive for Pyelographic Media.

RUSSELL B. ROY, ANTHONY F. KAMINSKY and ELMER HERR, St. Vincent's Hospital, Erie, Pa.

The presence of urinary tract infection has imposed certain limitations upon the safety of retrograde pyelography as a technique of urologic investigation, since it raises the danger of carrying infection into previously uninfected kidney. This may be especially hazardous if stone or obstruction exists in the kidney in question. The addition of an antibiotic to form a 2.5% solution in any of the standard urographic contrast media has proved to be safe, simple, and practical procedure. In series of well over 200 pyelograms so made there has been no evidence of toxicity or increased irritation. It is possible, by this method, to carry out retrograde pyelography in spite of urinary tract infections that might previously have been regarded as contraindications to this form of investigation.

Renal Lymphatics Experimental Studies.

WILLARD E. GOODWIN and JOSEPH J. KAUFMAN, University of California Medical Center, Los Angeles.

The exhibit presents summary of present knowledge of the function of renal lymphatics in states of health and disease. A series of animal experiments illustrating the importance of the lymphatics of the kidney as safety valve mechanism during periods of disease and venous obstruction is included.

The Urinary Stone Problem.

DONALD W. BRANHAM, JOE E. COLLINS, and W. FRIEDMAN, University Hospitals and Veterans Hospital, Ochsner Clinic, New Orleans.

The exhibit presents radiographic reproductions in black and white of the common urinary calculi as to type, location, and anatomical arrangement.

The Horseshoe Kidney

THEODORE R. FITTER and N. R. VARANO, Jefferson Medical College Hospital, Philadelphia.

The type of fused kidney most commonly found in the horseshoe kidney. Detailed description, with photographs of series of horseshoe kidneys found in surgery as the anatomic laboratory and the postmortem room, is presented. The surgical management is presented and discussed. Certain interesting incidences, epidemiological, and diagnostic criteria are also presented. Several horseshoe kidneys removed in plastic models are demonstrated.

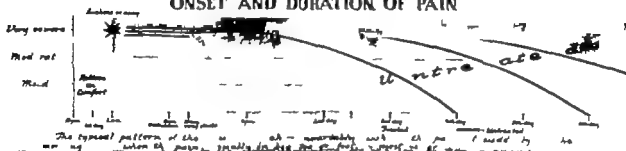
Gout.

L. MAXWELL LOCKIE and JOHN H. TALBOTT, University of
Buffalo School of Medicine and Buffalo General
Hospital Buffalo

The exhibit places special emphasis on the treatment to be used in the acute attack of gouty arthritis and the outline program that has been effective in the prevention or decrease of subsequent attack. The use of colchicine, probenecid, phenylbutazone and ACTH is outlined as it pertains to the care of patients with gout and gouty arthritis.

DIAGNOSIS

ONSET AND DURATION OF PAIN



The patient with a typical attack of gout experiences the onset over a period of a few hours—usually awakening him. At this point the pain is extreme. If a patient has had an insidious onset extending over a period of several days there is great doubt that this is gout, but rather a different type of arthritis.

Following the time of awakening in an untreated patient, there will be 12-14 hours of severe pain. This could be called a period of agony. There are few changes in symptoms at first and then gradually there is a letting up of the intensity of the attack so that over a 4-6 day period it will subside completely. However if the knee or some joint other than the big toe or foot is involved it may take weeks to subside completely.

BLOOD SERUM URIC ACID

With few exceptions always found above the normal level (4.5 mg./100 ml.)

- ✗ If not above normal level in patient are a good exception
- + Abnormalities within preceding years of Probenedol, aspirin, or some other anti-rheumatic agent
- * Interference of samples (must be freshly prepared)
- * Interference with inadequate exposure not often met

5% of hospital patients without a history of gout have uric acid levels above normal?

Along with the more accurate diagnosis of gouty arthritis, it is amazing that a very high percentage of patients—over 97%—will have abnormally high levels of uric acid in the blood serum that is, it will be over 6.0 mg./100 ml. The use of whole blood is not as accurate, as chromogenic substances are present which interfere with an accurate chemical determination of the uric acid content.

All of our male patients have uric acid studies made, even though no diagnosis of gout is made. It has been a surprise to us that several who have had a high reading, subsequently developed a typical attack of gout.

Five per cent (5%) of hospital patients have increased uric acid readings and have not had gout. It will be of great interest to follow them during the years to know how many will develop gouty arthritis.

SUBCUTANEOUS TOPHI

Most often are seen of ear, elbow and fingers. Sometimes asymptomatic but many times small and easily overlooked.

OSSEOUS TOPHI

As seen by x-rays, punched out areas appear near the ends of bone within the joint space, due to resorption of bone. This deposit of uric acid crystals replaces bone and not apparent to x-rays.

INCIDENCE OF COLCHICINE

Attacked that will	per cent of total completed
all	if age and sex
are	if that are not
for	of

Colchicine relieve the symptoms in one form of arthritis and that is gouty arthritis. There are many such as phenylbutazone, cortisone, hydrocortisone, prednisone, prednisolone, ACTH and salicylates which will give relief in arthritis, but they are not specific for gout.

Colchicine is so specific, that arthritis relieved by full doses of colchicine makes one consider that diagnosis very seriously.

Also, colchicine should be used with any other medication during treatment for the acute attack or following it. The results are better. It could be called a "therapeutic catalyst" in these instances.

COMPARATIVE INCIDENCE OF TOPHI

	10 years ago	Today
Subcutaneous Tophi	80%	15%
Osteous Tophi	60%	90%
Both	60%	90%

If considerable number of patients with gout have tophi, they are considered to be chronic. This is diagnostic of chronic gouty arthritis.

Probenedol is useful for this purpose.

A tophus forms when uric acid is deposited either under the skin or in the bone. This is diagnostic of gout. Usually tophi form after acute attacks have started, but some patients have been seen who had tophi first.

The most common sites are shown on the charts. It is of great interest that the percentage of patients seen now with tophi—either subcutaneous or osseous—is considerably less than 10 years ago. This is due to two main reasons—one, that the diagnosis is made earlier so that tophi have not had time to form and the other reason is that patients have received medication which aids in increased uric acid excretion. Probenecid now is the most effective of these agents and can be taken indefinitely without body harm. It tends to prevent tophus formation and will cause some tophi already formed to disappear.

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Colchicine may also be given intravenously once or twice daily for several days, but it must be used with caution, as painful local symptoms appear if there is infiltration around the vein.

ACTH + COLCHICINE

- ☐ [AC]X_100 units sent
☒ [AC]X_20 units sent (if hr. official)
☐ [Globe] no - all over

COLCHICINE† PHENYL BUTAZONE

The reaction scheme shows a mixture of three isomers of dichloroethane: 1,2-dichloroethane (represented by two circles with two dots between them), 1,1-dichloroethane (represented by two circles with two dots on one circle), and 1,1,2-trichloroethane (represented by two circles with three dots, one on each circle). This mixture is converted by an AlO catalyst (indicated by an arrow) into ethylene (two circles with no dots) and dichloroethane (two circles with two dots between them).

○ Alamy Unlabeled img ~ 2,000 img.

○ $\text{C}_6\text{H}_5\text{COOH} + \text{NaOH} \rightarrow \text{C}_6\text{H}_5\text{COONa} + \text{H}_2\text{O}$

No reactions have been noted as due to phenylbutazone when this dosage is used. This is given one or two days at the most.

DIET

- 4 High carbohydrates low fat low
protein in marginal protein
- 5 The oil - f - h - f - oil - one third and 1
the oil which has absorbed oil
- 6 Alcohol is a dehydrating agent

Certain foods may act as trigger mechanisms for some people (e.g. garden pea for some people)

Fluids should be given liberally—especially fruit juices.

TREATMENT AFTER ACUTE ATTACK

PROBENECID + COLCHICINE

Use a 100 mg tablet 4 times a day for the first 2 days of uric acid excretion (tophaceous)

Day 1
○ ○ ○

Day 2
○ ○ ○

○ ○ ○

○ ○ ○

○ ○ ○

○ ○ ○

○ ○ ○

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○ ○ ○

○ ○ ○

It has been our experience that the combination of probenecid and colchicine diminishes the frequency and severity of recurrent attacks of gouty arthritis. There are many patients who have been free of attacks after starting to take these drugs regularly even though some of them had many very severe attacks prior to therapy.

○

Probenecid - 0.5 gm. |

○

Colchicine - 0.5 mg.

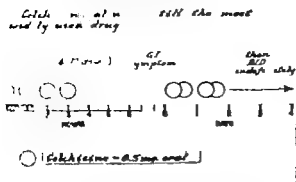
Patients with infrequent, mild gout probably do not need this intensive regular therapy but should be watched carefully.

Probenecid and colchicine are strongly recommended under these conditions

1 Frequent attacks of gouty arthritis.
2 Subcutaneous or osseous tophi present.
3 High level blood serum uric acid

TREATMENT OF ACUTE ATTACK

COLCHICINE



For several hundred years, it has been firmly established that colchicine alone is the drug of choice for the treatment of acute gout. So it remains today that it is the most widely used drug.

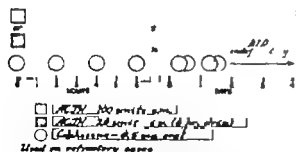
To be most effective, it is given in a dose of 0.5 mg at hourly intervals until gastrointestinal symptoms develop. This usually requires 6-12 tablets, occasionally more. As soon as digestive symptoms occur the medication is stopped.

When used early complete relief follows in 24-48 hours. Thereafter it should be given twice daily indefinitely.

Colchicine may also be given intravenously once or twice daily for several days, but it must be used with caution, as painful local symptoms appear if there is infiltration around the vein.

ACTH + COLCHICINE

Colchicine appears to act as a "therapeutic catalyst" with other drugs

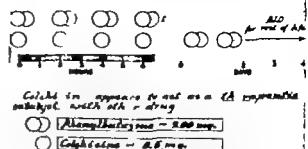


ACTH and colchicine are used in patients who are unable to take oral medication, or in those few who have not responded to other forms of therapy.

The ACTH can be given either intramuscularly or intravenously.

COLCHICINE + PHENYLBUTAZONE

Combination according to a (A) agent used alone



One tablet colchicine (0.5 mg) and two tablets phenylbutazone (100 mg each) given every two hours for four doses, is the most effective plan of therapy for acute gout.

Colchicine seems to act as a "therapeutic catalyst" in this form of therapy.

The combination of these two drugs is far more effective than when either is used alone.

No reactions have been noted as due to phenylbutazone when this dosage is used. This is given one or two days at the most.

DIET

1. High on high fat, low fat, low protein, low purine diet
2. Treat - if A - food - and if it does not work then all at once
3. Alcohol is a bad habit to question

Certain foods may act on trigger mechanisms for some patients (e.g. uric acid, lactic acid, etc.)

During the acute phase, all meat, fish and fowl should be omitted. In fact, most patients are too ill to care at this time.

Fluids should be given liberally—especially fruit juices.

EAR TREATMENT FOLLOW UPS

2

Duration
in days
Dry season

Medicine

Dr. J. L.



WS - AGE 57

Before Probiotic

90 days per year
30 days

With Probiotic

None
None

3.0 - 12.0

U to 1000 mg / ml

Calculation Therapy

Calculation Therapy

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SR - AGE 40

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24.0

2.5 mg

of 10

Calc. mg / ml

3.9 - 6.2

Calculation Therapy

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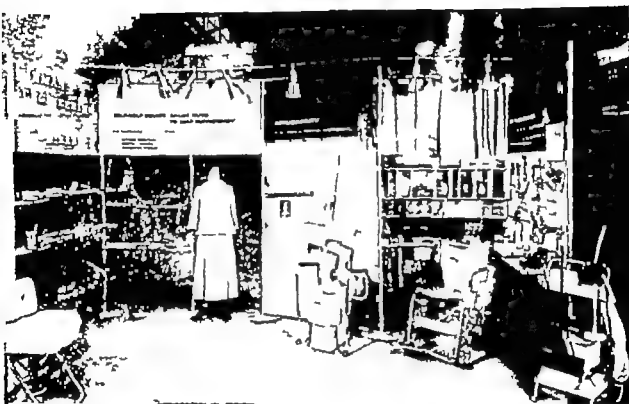
Calculation Therapy

Calculation Therapy

Self-Help Devices for the Arthritic.

EDWARD W. LOWMAN, Institute of Physical Medicine and Rehabilitation New York.

The exhibit consists of various self-help devices that may be used by arthritic patient to increase their personal self-sufficiency. In addition, energy-saving devices for reducing work on damaged joints will be shown.

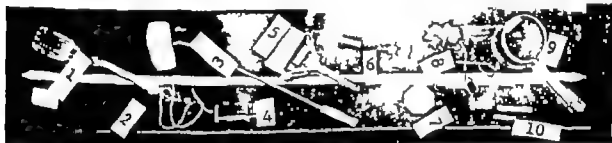


The patient with CHRONIC ARTHRITIS may sustain DAMAGE IN JOINTS which MECHANICALLY INTERFERES with the performance of activities necessary to INDEPENDENT SELF-SUFFICIENT LIVING. This impediment may be in such simple activities as dressing or may only be reflected in the most demanding of activities i.e. traveling via public transportation.

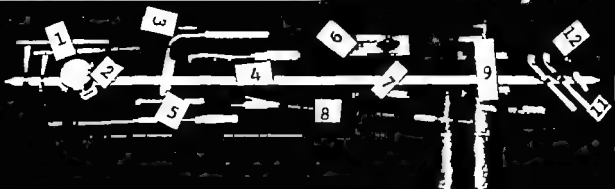
RESTORATION of functional independence THROUGH SPECIAL DEVICES is the goal in HUMAN ENGINEERING FOR THE DISABLED.

In the treatment and rehabilitation of the disabled arthritic, SELF-HELP DEVICES should not replace the intelligent use of therapeutic measures which must remove the restricting impediment. On the contrary, devices should be used to compensate for impediments which the arthritically present an impasse. The fewer devices used the better will be the patient's mode of living. ON THE OTHER HAND, THEIR INTELLIGENT APPLICATION IS OFTEN THE KEY TO GAINING A WIDE VISTA of independence, self-reliance and self-sufficiency.

To justify their applicability to a wide population of persons afflicted with physical disability, SPECIAL DEVICES SHOULD BE SIMPLE IN OPERATION AND REASONABLE IN PRICE. The devices demonstrated in this Exhibit are but a few of hundreds designed for and applicable to the disabled patient.



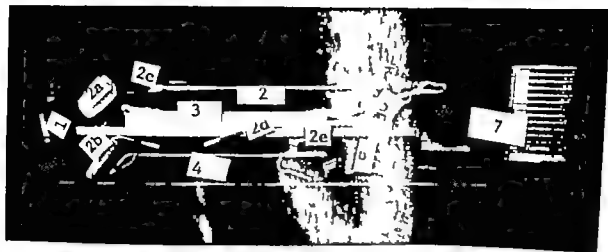
DEVICE	PURPOSE
1 Bathing brush with soap	- increases reach / eliminates constant soap handling
2 Finger nail brush	- eliminates grasping can be fitted over hand
3 Bathing brush	- increases reach
4 Suction finger brush	- frees hands
5 Wash cloth or sponge holder	- increases reach
6 Sandwich holder	- increases reach
7 Hair brush	- easier to grasp
8 Nosewiper	- increases reach
9 Around the neck mirror	- frees hands
10 Button hook	- larger handle makes grasping easier



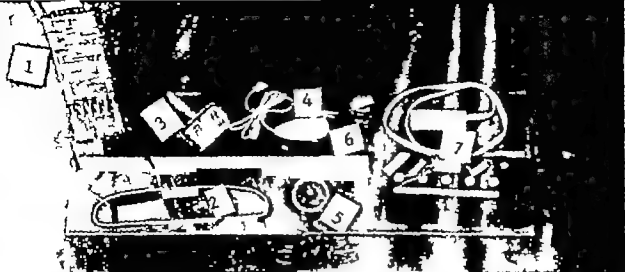
DEVICE

PURPOSE

- | | |
|---|---|
| 1 Long handled spoon and fork | - increase reach |
| 2 Glass holder with drinking straw attachment | - plastic glass and straw remove breakage problem handle makes glass easier to hold |
| 3 Long handled comb | - telescoping allows for adjustment of length, angle makes combing easier |
| 4 Large handled comb | - easier to grasp |
| 5 Long handled toothbrushes with joint for angulation | - increase reach angle makes easier to use |
| 6 Elastic shoe laces | - eliminate tying shoe laces |
| 7 Utensil holder | - allows for holding utensil without grasping |
| 8 Long handled shoe horn | - increases reach |
| 9 Large handled eating utensils | - easier to grasp |
| 10 Knife and fork combination | - allows for one-handed cutting and eating with same utensil |
| 11 Rocker knife | - allows for one-handed cutting |
| 12 Swivel spoon | - substitute for lack of rotation of the forearm |



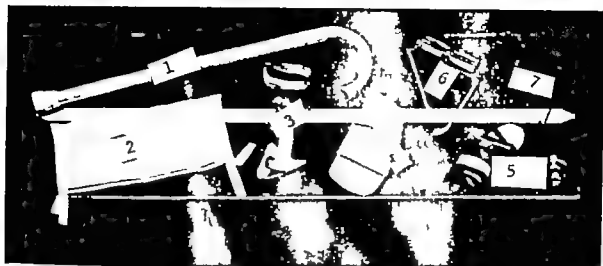
DEVICE	- PURPOSE
1 Shoe fastener	- eliminates tying shoe laces
2 All-purpose utility stick	- allows for interchangeable use of several devices ¹ increased reach
a sponge	
b comb	
c shoe horn	
d hook	
e magnet	
3 Long handled shoe horn	- minimizes need for the
4 Reaching device	- increases reach
5 Garters on tape	- minimizes need for drawing up undergarments hose
6 Reaching device	- increases reach
7 Home-to-school microphone	- permits homebound continue school microphone reach between home room



DEVICE

PURPOSE

- | | |
|----------------------------|---|
| 1 Model, spondylitis chair | - adapts to need of spondylitis for increased chair height and reclining back |
| 2 Rear view mirror | - allows greater rear view |
| 3 Lint remover | - eliminates exertion of brushing, energy saver |
| 4 Electric scissors | - minimize hand motion connected with cutting paper or fabric |
| 5 Remote control switch | - allows control of a single electrical unit from a distance |
| 6 Steering wheel knob | - allows for control of wheel with palm of hand easier grasp |
| 7 Multi-control unit | - allows control of several electrical units from a stationary position |



DEVICE

PURPOSE

- | | |
|--|---|
| 1 Collapsible aluminum cane | - lightweight, durable, easily packed and transported |
| 2 Partitioned pack filled with silica gel | - efficient means of applying hot, moist packs |
| 3 Aluminum hand splint | - lightweight corrective splint |
| 4 Fiberglass ulnar deviation splint | - lightweight corrective splint |
| 5 Cigarette lighter in kit
Separate lighter with plastic ring for holding | - minimal hand motion involved in lighting cigarette plastic ring on lighter allows for easier grasping |
| 6 Prism glasses | - for reading in supine position |
| 7 Rear view glasses | - minimize need for turning head for rear vision |

Painful Shoulder Syndromes.

OTTO STEDEROCKER, SHERBY BERKOWITZ, MORTIMER EDELSON, and MARVIN CHILDS, Hospital for Joint Diseases and Leont Hill Hospital, New York.

An outline of the symptoms and present-day treatment of the latissimus painful syndrome of the shoulder is presented, including the highlights of diagnosis and management and the distinctive features of each syndrome. The basic program used in all will be outlined, and the specific additional agents or local procedures for each condition will be described by charts, tables, drawings, and photographs.

Payet's Disease, an Example of a Disease with Which Arthritis Is Frequently Associated.

EDWARD P. HARTUNG, New York University Postgraduate Medical School, New York.

The classification of arthritis as given by the Standard Nomenclature of Diseases mentions diseases in which arthritis, arthralgia or osteoarthritis are frequently associated. Payet's is one of these diseases. This exhibit reviews the diagnosis, the complications, the pathology and the treatment. In particular, this exhibit records the history of patient with Payet's disease followed for 21 years, especially as to the variations in the alkaline phosphatase studies and the shaft measurements.

The Significance of Laboratory Data in the Collagen Disorders.

WILLIAM K. ISHMAEL, RICHARD W. PAYNE, MARVIN R. SKUTLAR, J. N. OWENS, and MARY L. DUFFY McBride Clinic, University of Oklahoma School of Medicine, Oklahoma City.

The polyarthralgia-pruritus rash, and leukoerythrocytic reaction, Coombs' positive, antinuclearity test, erythrocytic sedimentation rate, and the serum protein fractions are compared in a group of patients having rheumatoid arthritis, rheumatic fever, lupus erythematosus, dermatomyositis, and scleroderma. The results of these tests are correlated with the patients' course as an effort to evaluate their relative significance.

Sjögren's Syndrome: A Study of Nine Cases.

CHARLES W. DUNN, University of Chicago School of Medicine, Chicago, and DELBERT M. BERENSON, National Cancer Institute, National Institutes of Health, Bethesda, Md.

The widespread symptomatology of Sjögren's syndrome, so similar to that seen in many connective tissue disorders, creates diagnostic problems for the rheumatologist. The main manifestations of the fully developed syndrome include chronic condition of dryness of eye, mouth, nose, pharynx, and larynx, with polyarthralgia of the rheumatoid type. An evaluation of the clinical characteristics of nine cases of this disorder is presented, with pertinent laboratory findings demonstrating the auto-immune involvement. Connective tissue was mostly present. Electrolyte studies showed increased in the plasma globulin fraction. Pulmonary fibrosis was present in two patients. Biopsy material demonstrated lymphocytic or mixed cell infiltration of salivary, parotid gland, liver, and bone marrow. The etiology of bone involvement is under investigation (possibly osteitis). Treatment with steroids, especially prednisone, relieved joint pains and brought improvement in the dryness of eyes and mouth, although this was largely subjective.

Prednisone and Rheumatism.

CARL A. BRINTZEN, RUSSELL L. CECIL, R. H. FAIRHURD, and W. H. KAMMERER, New York.

Statistical data on the results of treatment with prednisone and prednisolone in a group of patients with rheumatoid arthritis are presented. The majority of patients have been treated and followed over a period of 12 to 18 months.

Information About Arthritis and Rheumatism.

RUSSELL L. CECIL and R. W. LAMONT-HAYES, Arthritis and Rheumatism Foundation, New York.

The exhibit shows the services of the Arthritis and Rheumatism Foundations, with special emphasis on services to physicians and medical students, such as the Arthritis Clinic Manual and the Bulletin on Rheumatic Diseases.

Rheumatoid Arthritis: Diagnosis and Treatment.

DWIGHT C. EMERSON and JOHN W. SOULES, Henry Ford Hospital, Detroit, DONALD F. HILL and W. PAUL HOLBROOK, Tucson, Ariz.

Rheumatoid arthritis is potentially crippling joint disease. It is essential that an accurate diagnosis be made as promptly as possible. The various features of diagnosis and differential diagnosis are presented. Photographs and roentgenograms illustrate characteristic stages of the disease. The importance of comprehensive program is stressed, including education of the patient as to the nature of his disease, the use of chemosynthetic measures of proved value, and the importance of early balanced rest and corrective exercises. Supplemental measures (gold salts, steroids) as prescribed. The employment of splints and other rest measures and simple devices as aids in daily activities is discussed.

Rheumatoid Synovitis.

THEODORE A. PUTTER and THEODORE B. BAYLES, Robert Breck Brigham Hospital, Boston.

The exhibit presents the life history of rheumatoid synovitis with end-results of medical and orthopedic treatment of 316 cases followed from 4 to 30 years.

Osteoarthritis.

BERNARD M. NORDHORN and SALVATORE E. LATOZA, University of Buffalo and Buffalo General Hospital, Buffalo.

The accepted etiological factors and the pathological features of osteoarthritis are reviewed. The differential diagnosis and treatment of osteoarthritis are demonstrated, with emphasis on new methods of therapy. Photographs, x-ray and drawings illustrate the typical clinical and pathological findings and also the treatment of osteoarthritis.

Rheumatoid Arthritis: A Systemic Inflammatory Disease of the Connective (Collagen) Tissues.

ELAN TOUROS, GORDON HENEGGAR, and JOHN VADOKAS, Medical College of Virginia, Richmond, Va.

The exhibit presents (1) brief historical sketch to show the development of the present concept of connective tissue disease; (2) photographs of characteristic histological changes in various connective tissue diseases such as rheumatoid arthritis, rheumatic fever, disseminated lupus erythematosus, polyarthralgia, and scleroderma, including graphic display of the important points in the clinical picture and tabulation of the important laboratory tests of these diseases; and (3) electron microscope demonstration of the fibrillar components of connective tissue and chemical description of the ground substance.

"Do You Have a Question, Doctor?"

A consultation booth has been arranged where visiting physicians may discuss problems regarding their patients who have arthritis. This booth is sponsored by the Arthritis and Rheumatism Foundation and the consultants are members of the American Rheumatism Association.

Air-Borne Mold Spores in Seasonal Allergy

OREN C. DURHAM, Abbott Laboratories,
Ill., and DAVID MERKELMAN, Jr.,
Ithaca, N. Y.

During the summer and fall the seasonal so-
lutions of allergic diseases to the atmosphere
Mississippi and Ohio River Valleys. Sensitivity to
pollen is more frequently manifested as seasonal asthma
and is more frequently found in children than in
the outstanding offender. This exhibit deals with ge-
ographical incidence as shown by nationwide sam-
pling over a period of more than 20 years. Methods
of mold spore allergy cases are outlined.

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Capital, Brook

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time after
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Spores of several species of soil molds and other
seasonal fungi. The mixed specimen here shown was
dislodged in large quantities from ripe wheat in the
process of harvesting.

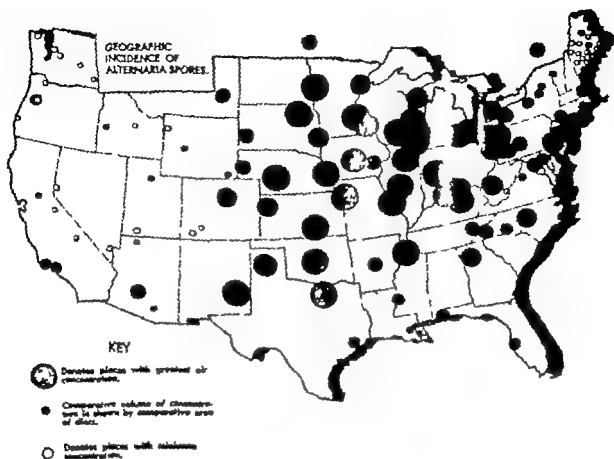
1. *Helminthosporium*,
2. *Alternaria*,
3. *Stem rot*,
4. *Hermescladron*,
5. *rust*.

Magnification 800x

While molds and other fungi of innumerable species will grow on any kind of medium, particularly on
living and dead vegetation the great bulk of spores found in the air during the summer and autumn
are of the types shown above. These grow on wild and cultivated grasses, particularly on the cereals.
Farmers, workers in grain elevators and in flour and feed mills are exposed to heavy concentrations.
Rusts and smuts are not very active as allergens, but *Alternaria* is an outstanding offender.

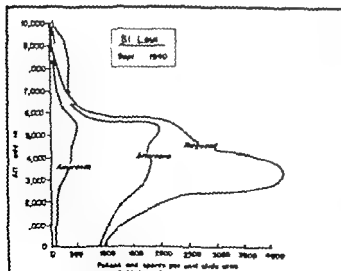


AIR BORNE MOLD SPORES IN SEASONAL ALLERGY

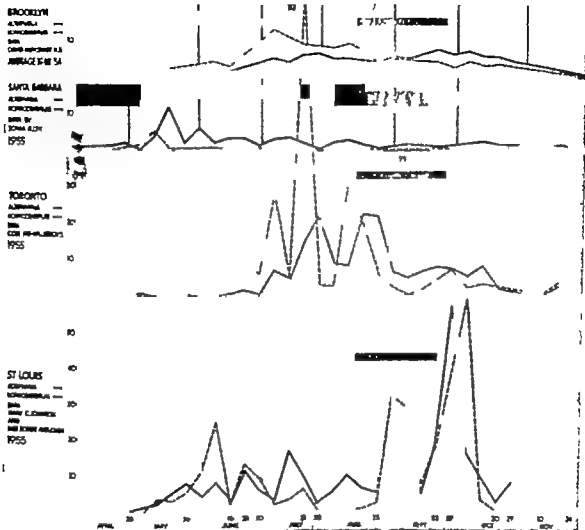


The data here shown have been gathered by allergists and botanists, members of and collaborators with the Pollen and Mold Committee of the American Academy of Allergy using standard methods for "gravity" sampling and counting of

slides exposed daily throughout the summer and autumn. In some places the annual studies have been carried on continuously for as long as twenty years.



SEASONAL INCIDENCE OF MOLD SPORES

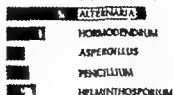


Four typical seasonal mold spore and pollen studies in widely separated areas. For pollens only the seasons, not the fluctuations, are shown. It will be noted that the Alternaria and Helminthosporium seasons overlap both the grass pollen season and the ragweed season even beginning before the tree pollen season is finished. The daily counts have been plotted as weekly averages. Data from same sources as those used on the map on a preceding page.

COMPARATIVE IMPORTANCE

As wind-borne allergens, mold spores are second in importance to pollen. *Alternaria* causes more skin reactions and more clinical symptoms than do other molds.

SKIN REACTIONS IN 53 CASES



Most mold sensitive patients are also pollen sensitive. In the New York area less than a third are found to be clinically sensitive only to the molds.

AGE INCIDENCE

Most cases of mold spore allergy are found among children in their first decade.

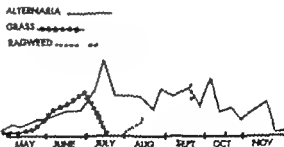


MANIFESTATIONS

Among mold sensitive patients bronchial asthma is most frequently the outstanding symptom, occurring alone or in association with rhinitis.

DIAGNOSIS

All histories of summer allergy should be checked for time of occurrence with both of the pollen seasons and with the *Alternaria* season.



SPECIFIC THERAPY

Approximately 80 to 90 percent of mold sensitive patients obtain satisfactory relief from hyposensitization with properly selected mold extracts.



Special Exhibit on Fractures

The Special Exhibit on Fractures is presented under the auspices of the following Committee:

RALPH B. CROTHERS, Cincinnati, Chairman.

HARRY B. HALL, Minneapolis.

CHARLES V. HICK, Chicago.

Demonstrations will be conducted simultaneously each morning and afternoon during the meeting in each of five booths on the following subjects:

Fractures of the Ankle.

Traction for Upper and Lower Extremities.

Fractures Resulting from a Fall on the Hip and Head.

Simple Fractures of the Humerus.

Fractures Encountered by the Foot Guard in an Automobile Crash.

The demonstrations will deal with basic principles and the interest of the physician in general practice. A pamphlet presenting the essential features of the exhibit will be available for distribution.

FRACTURES OF THE ANKLE

When the ankle fractures the foot may be displaced

1. Outward—Abduction type (Potts)
2. Inward—Adduction type (Bimalleolar)
3. Backward—Trimalleolar (Cotton)
4. Forward
5. Upward—Compression type



1. Abduction



2. Adduction



3. Trimalleolar



4. Forward

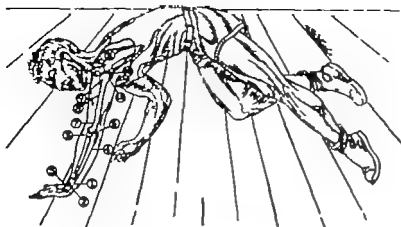


5. Vertical Compression

- ▶ TAKE X-RAY PICTURES BEFORE AND AFTER AND BE SURE THE REDUCTION IS GOOD IN BOTH PLANES.
- ▶ USE RELAXING ANESTHETIC FOR REDUCTION OF FRACTURES.
- ▶ FLEX LEG ON THIGH DURING REDUCTION TO RELAX CALF MUSCLES
 - ▶ REDUCE FOOT DISPLACEMENT IMMEDIATELY. DO NOT WAIT FOR SWELLING TO SUBSIDE.
 - ▶ EMPLOY EARLY ACTIVE MOVEMENT AND LATE WEIGHT-BEARING AFTER ANKLE FRACTURE.
 - ▶ HOLD REDUCTION IN PADDED PLASTER SPLINT.



THE FALL ON THE OUTSTRETCHED HAND



WHAT TO LOOK FOR
FOLLOWING A FALL
ON THE OUTSTRETCHED
HAND

The force may be dissipated in one or more locations.

- | | |
|--------------------------------------|---------------------------------------|
| 1 The common Colles' fracture | 7 Supracondylar fracture of the elbow |
| 2 Semilunar dislocation | 8 Shaft of the humerus fracture |
| 3 Navicular fracture | 9 Surgical neck of the humerus |
| 4 Monteggia fracture | 10 Bruising the head of the humerus |
| 5 Head of the radius fracture | 11 Clavicle fracture |
| 6 Posterior dislocation of the elbow | 12 Subcoracoid dislocation |



Colles' fracture.
Second stage—lateral view

Fracture of head of the ra.

THE FALL ON THE OUTSTRETCHED HAND



Posterior dislocation
of elbow



Supracondylar fracture
of elbow



Anterior
aspect

Posterior
aspect

Fractures of the shaft of the humerus. Radial
nerve may be caught in callus.



Left, fracture of surgical neck of humerus.

Right, bruising of head of humerus.

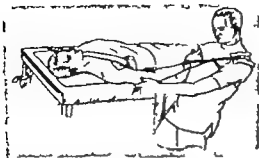


Fracture of clavicle.

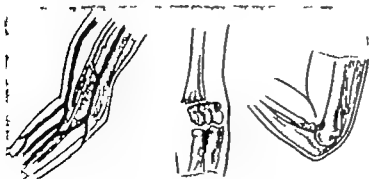


Subcoracoid dislocation.

SUPRACONDYLAR FRACTURE OF THE HUMERUS



- ▶ JONES' POSITION IS "EASY FLEXION" AFTER EXTENSION AND THOROUGH TRACTION.
- ▶ REDUCTION MADE BY PULL. FLEXION HOLDS REDUCTION
- ▶ BEFORE REDUCTION TEST CIRCULATION AND NERVE SUPPLY AND CONTINUE TO WATCH CIRCULATION AND NERVE FUNCTION AFTER REDUCTION
- ▶ PAINFUL PASSIVE MOTIONS MEAN TEARING OF TISSUES. DO NOT "PUMP HANDLE" THE ELBOW IT DECREASES MOBILITY
- ▶ EMPLOY ACTIVE NOT PASSIVE MOVEMENTS AT ELBOW WHEN RETURN OF FUNCTION HAS COMMENCED
- ▶ REDUCE SUPRACONDYLAR FRACTURES BY
 - 1 EXTENSION OF FOREARM.
 - 2 TRACTION OF FOREARM.
 - 3 FLEXION OF FOREARM WITH MANIPULATION OF LOWER FRAGMENT
 - 4 AXES OF FOREARM MUST COINCIDE.
- ▶ IF NERVE FUNCTION OR BLOOD SUPPLY BECOMES IMPAIRED REDUCE THE FLEXION



Common Type

SUPRACONDYLAR FRACTURE OF THE HUMERUS



Principle of traction and countertraction. Direction of forces is dependent upon specific type of fracture.



Supracondylar fracture shows relation of fragments to blood supply



Medial epicondyle fragment displaced in typical manner



Example of T or Y type of supracondylar fracture. Very unstable. Protect from further damage by careful handling.

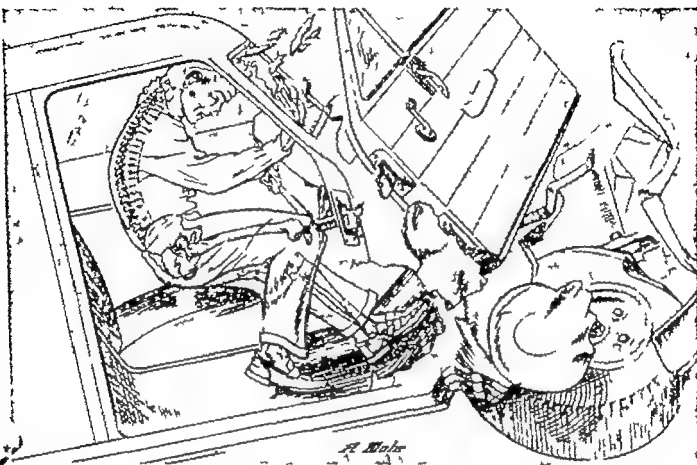


X-ray does not give entire picture. Note reason for rotation of lateral fragment and relation to radial head.



Fracture distal end of radius with the of joint surface showing impaction of fragments and shortening of the radius.

THE FRONT SEAT PASSENGER IN A CRASH



THE PASSENGER IN THE FRONT SEAT IS VERY VULNERABLE TO INJURY WHEN A CRASH OCCURS THE WHOLE BODY IS PRECIPITATED FORWARD WITH GREAT FORCE.

▶ THE HEAD USUALLY STRIKES THE WINDSHIELD AND IN ADDITION TO THE HEAD ITSELF GREAT FORCE IS APPLIED TO THE SPINE.

▶ IF THE HEAD AND HAND TAKE THE BULK OF THE FORCE, THE CERVICAL SPINE MAY BE INJURED

▶ IF THE KNEE STRIKES THE COWL, FORCES ARE APPLIED TO THE WHOLE FEMUR AND PELVIS.

▶ IF THE HEAD STRIKES THE WINDSHIELD AND THE KNEE STRIKES THE COWL, THEN THE FORCES MAY BE DISSIPATED IN THE SPINE ANYWHERE FROM THE FIRST CERVICAL TO THE FIFTH LUMBAR.

▶ IF THE FOOT IS FORCED FIRMLY AGAINST THE FLOORBOARDS, THE FORCE MAY BE DISSIPATED IN THE FOOT ITSELF OR IN THE LEG UP TO THE KNEE.

THE FRONT SEAT PASSENGER IN A CRASH



Fracture of tibia and fibula from upward thrust.



Posterior dislocation and fracture of the acetabulum.



Intercondylar fracture of the femur



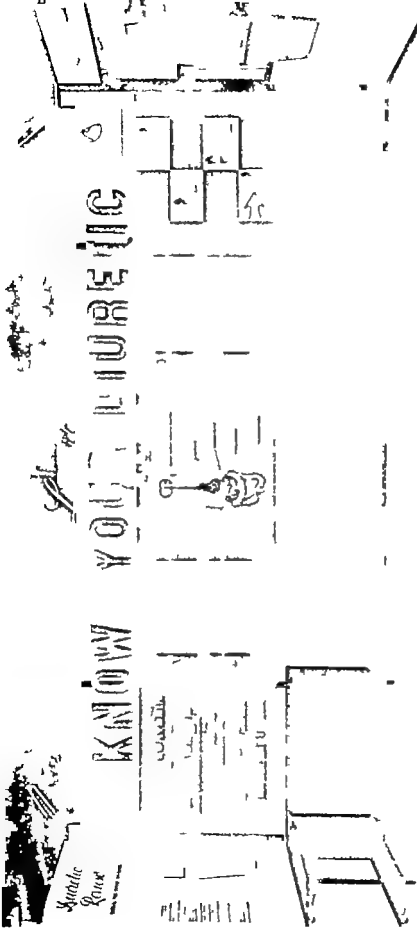
Fractured upper end of tibia into the knee.



Cervical spine, showing C1 dislocation, odontoid fracture and C1 dislocation, and dislocation C4 on C3



12th dorsal vertebra with severe compression.



Diuretic Review

COVERS ALL FIELDS CONCERNED WITH DIURESIS

clinical reassessment of
major oral diuretics

TOXICOLOGY

cardiovascular dynamics
related to diuretics

CARDIOLOGY

fluid retention in hepatic cirrhosis
the role of sodium in
etiology and therapy

INTERNAL MEDICINE

kidney function in infants
clinical physiology of
urine concentration

PEDIATRICS

edema and sodium retention
in toxemia of pregnancy

ONTOGENESIS AND CYTOLOGY

the antidiuretic hormone
in water balance

ENDOCRINOLOGY

regulation of acid-base balance
the renal control of
normal ion exchange

CLINICAL INVESTIGATION

radioisotopes and their uses
in measurement of
ion pools and spaces

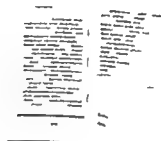
EXPERIMENTAL MEDICINE

tests of renal function
clinical aspects

LABORATORY DIAGNOSTICS

effects of posture, compression,
and bleeding on the
excretion of sodium

PHYSIOLOGY



NEOPHILIN
(BRAND OF CHLOROPHYLL)

33 NO OF CHLOROQUERCIN METHO PROPYL CA N EACH 10 7

ଉପରୋକ୍ତମାନଙ୍କୁ ଗଣ ସ୍ୱତନ୍ତ୍ରତାମାନଙ୍କୁ ଲେଖା ଗ୍ରାମ
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 ଉପରୋକ୍ତମାନଙ୍କୁ ଲେଖା ଗ୍ରାମ ଲେଖା ଗ୍ରାମ
 ଉପରୋକ୍ତମାନଙ୍କୁ ଲେଖା ଗ୍ରାମ ଲେଖା ଗ୍ରାମ

NEBHYDRIN CAN BE PRESCRIBED EVERY DAY
SEVEN DAYS A WEEK AS NEEDED

[illegible]

MYEPRON[®] IN
(BRAND OF MERALLURIDE INJECTION)
SODIUM



Q

Will your cardiac patients be able to continue the diuretic you prescribe?

A

Uninterrupted therapy is the key factor in diuretic control of congestive failure. This promotes the patient's comfort and well-being by preventing recurrent sodium and water accumulation.

Q

Can your diuretic help you control all degrees of failure?

A

Widest coverage of all degrees of failure—not just mild cases—lets you control acute symptoms and prevents recurrences in all your cardiac patients. NEOHYDRIN and MERCUHYDRIN cover the whole spectrum of cardiac failure.

Leadership Research

100% 100%

100% 100%

Culp, D. A.	365	Ferguson, J. T.	133	Goodwin, W. E.	365
Cummings, M. M.	61	Ferguson, L. K.	340	Gordon, A. S.	340
Cunningham, J.	62	Ferguson, T. M.	229	Gordon, B. L.	61
Cwik, J. C.	23	Fetter, T. R.	365	Gordon, D. M.	229
		Figiel, L. S.	310	Gordon, E. E.	266
D		Figiel, S. J.	310	Grabert, T. M.	394
Dahlin, D. C.	238	Finke, W.	133	Grace, J. T.	339
Dalitsch, W. W.	394	Firfer, R.	365	Graf, E. C.	365
Dangis, H. C.	30	Flacher, G. G.	161	Graham, A. W.	265
Danlehon, R. E.	198	Fish, J. R.	365	Graham, J.	133
Darceon, H. W.	265	Fisher, A. R.	139	Grandon, R. C.	289
Devila, J. C.	62	Fisher, D. L.	159	Grant, D. N. W.	394
Davis, M. E.	224	Florentino, H. J.	23	Graybill, A.	61
DeBoer, A.	263	Fogel, E. J.	219	Greene, B. A.	23
DeGraff, A. C.	124	Foldes, F. F.	23	Greenwald, C. M.	297
Demos, C. H.	73	Footo, F. M.	103	Greenwald, I.	253
Denko, C. W.	380	Ford, R. V.	73	Grieg, J.	395
Deruda, E. W.	73	Ford, W. B.	159	Griesemer, R.	24
Denton, C.	54	Fowler, W. S.	61	Gumstien, G. J.	139
Derota, J.	92	Frauenberger, G. S.	394	Gurman, S.	61
Dervitz, H. L.	276	Frayer, W. C.	219	Gutner, L. B.	124
Dettebach, H. R.	73	Frazier, C. H.	34		
deVera, L. B.	62, 72	Frazier, D. W.	92	H	
Dobias, B.	258	French, O. O.	238	Haden, I. T.	198
Dol, L. T.	219	French, S. W. III	198	Hadley, H. L.	365
Donald, D. E.	339	Freyberg, R. H.	380	Haines, R. D.	81
Done, A. K.	54	Friedman, A. P.	219	Haley, J. A.	315
Donoghue, F. E.	92	Friedman, O. H.	61	Hall, H. B.	385
Downing, D. F.	265	Friedman, W.	365	Hamblin, D. O.	277
Doyle, J. E.	73	Frobese, A. S.	339	Hamilton, R.	160
Drasheim, J. W.	198	Frye, C. W.	340	Hand, A. M.	65
Drummond, R.	253	Fryer, M. P.	395	Handley, C. A.	267
Dudenhoefer, P. A.	271	Fudema, J. J.	276	Hanson, J. J.	289
Duffy, M. L.	380	Fulton, H. E.	310	Hanna, H. C.	339
Dufresne, M. R.	303	Funderburk, W. H.	133	Hamon, J. L.	198
Durham, O. C.	381	Funnell, J. W.	224	Hansen, H.	245
DeShane, J. W.	339	Fyke, F. E., Jr.	92	Hardin, R. C.	229
Dustan, H.	351			Hardy, J. D.	340
Duval, M. K.	339	G		Hardy, S. M.	73
E		Geaster, E. A.	61	Harper, H. A.	340
Eason, J. C. Jr.	289	Gagliardi, C. A.	265	Harnberger, H. G.	339
Edwards, J. C.	159	Galsford, J. C.	339	Hartman, C. G.	224
Edwards, J. E.	339	Gethard, B.	289	Hartung, E. F.	360
Ehrlich, M.	380	Geckeler, G. D.	159	Havens, L.	73
Eichner, E.	133	Gelfand, M. L.	159	Hawthorne, H. R.	339
Eichner, H.	133	Gormley, R. K.	238	Hayden, A. C.	394
Eliaz, M.	40	Gibbs, G. E.	265	Hayes, E. W. J.	61
Eller, J. J.	40	Gibbs, J. O.	92	Hazard, J. B.	180
Eller, W. D.	40	Gibson, A.	72	Healy, M. J. Jr.	339
Elison, E. H.	327	Gilbertson, F.	332	Heck, C. V.	345
Ely, R. S.	254	Gilmore, H. R., J.	289	Hackel, N. J.	365
Engel, W. J.	351	Ginsberg, J. E.	40	Heise, H. A.	395
Ensign, E. C.	380	Ginsberg, M.	340	Hellwig, C. A.	253
Epstein, J. A.	24	Glah, G. B.	17	Helmer, O. M.	72
Erckson, D. J.	134	Glover, R. P.	62	Henderson, E. D.	238
Evans, J. M.	135	Gobbet, W. J.	339	Henniger, J.	380
Evans, W. C.	62	Goffen, B. S.	23	Herring, E. B.	265
		Gold, H.	77	Hess, E.	365
F		Goldberg, H.	265	Heiser, C. J.	219
Falco, D. J.	72	Goldfarb, M.	341	Hewitt, R. M.	394
Falla, F. H.	224	Goldman, A.	62	Higgins, R. A.	73
Faust, E. C.	289	Goldstein, A. E.	341	Hightower, N. C.	81
Fazekas, J. F.	219	Goldstein, L. S.	265	Hillish, T. F.	310
Feeney, F. E.	289	Gollan, F.	339	Hill, D. F.	380
Feldstein, M.	134	Golz, H. H.	277	Hill, J. M.	72
		Goodell, H.	160	Hillsinger, R. L.	179

Hinderr, K.	119	K I H H	289	Luhada, A. A.	4 4
Hobertson, M.	76	I H	198	Lund, P. C.	21
Hodgkinson, C. P.	1 3	A m H L R	265	Lusky R.	4
Hoerner, E. F.	9	I m S W J	289	Lutterbeck, E.	MI
Hory, P. H.	9	A uru S J	229	Lyght, C. E.	4
Hoffman, B. F.	15	A L F	198		
Hoffman, B. M.		lung J H Jr	229		M
Hoffman, R. G.		Kirklin, J. W.	339	MacCarty, C. S.	114
Hogan, J. P.		Kirkley, W. A.	159	MacKay, A.	117
Hogua, R. B.	9	Klassen, F.	62	MacKler, S. A.	114
Holbrook, W. P.	380	Kl. a, B. A.	229	MacLenn, H.	7
Holland, A. H., Jr.	289	Kl. a, E. V.	2.4	MacNeill, A. E.	4
Holloway, R. J.	365	Knighton, W.	103	Madden, J. L.	1
Holt, C. S.	4	Knutson, A. U. C.	276	Madigan, H. S.	114
Holt, J. F.	179	Koeneke, I. A.	253	Magallini, S. L.	114
Hon, E. H.	20	Kompanier, E.	62	Magielski, J. E.	17
Hope, J. W.	65	K. sp. C. E.	265	Magness, H. L.	21
Horda, R.	160	rel, J. L.	3.3	Manchester, R.	11
Howland, W. S.	3	Jary, R. C.	61	Manfred, R. A.	114
Hubbard, J. B.	394	Kouhal, L. R.	23	Manning, K. R.	114
Huddleston, O. L.	2 6	Kozar, A.	73	Marble, A.	114
Huffman, W. C.	365	Krall, L. P.	160	Marinovich, M.	114
Huggins, C.	180	Kr. x R. J.	339	Marple, C. D.	114
Hughes, C. R.	797	Knes, H.	339	Marshall, G. L.	114
Hughes, C. W.	198	Kronawelt, H.	365	Martin, D. S.	114
Homonos, L. F.	365	Kroop, I. G.	159	Martu, B. L.	114
Hurst, L. J.	92	Krusa, F. Jr.	198	Mason, A. D., Jr.	114
Hussey, H. H.	339	Kryle, L.	124	Mason, D.	114
Hysen, G. W.	198	Kuba, R.	62	Messie, W. K.	114
		Kufis, J. P.	198	Mattings, T. W.	114
		Kulowall, J.	395	Mattison, R. F.	114
Innerfield, L. I.	134	Kuperberg, A. B.	224	Mawdsley, D. L.	114
Interlandi, J.	394	Kupperman, H. S.	224	Maxwell, I. H.	114
Isbernd, W. A.	380	Kupys, O.	73	McCaffrey, M. R.	114
Israel, H.	160	Kuramoto, K.	62	McCall, M. L.	114
				McCam, W. J.	114
				McClowry, J. L.	114
Jacoby, J. J.	23	Lackay, R. H.	198	McCam, R.	114
Jaffe, H. L.	310	La Due, J. A.	61	McCort, H. J.	114
Jamison, J. E.	395	Lamona-Havens, R. W.	340	McCough, E. E.	114
Jantow, O. H.	62	Landy, J. J.	73	McDonald, J. B.	114
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